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REVIEWS OF NEW BOOKS.

The Dark Falcon. By J. B. Fraser, Esq., author of "The Kuzzilbash," &c. 4 vols. R. Bentley.

MASTER of Persian history and manners, Mr. Fraser has here blended them together in a romance, which embodies the events that placed the Kajar dynasty on the throne, and describes the various provinces of the empire, their people and customs, in a graphic and oriental manner. The characters of Mahomed Aga, and his brothers Mustapha and Jaaffer, are, in particular, drawn with striking force, and, we presume, fidelity; and the hero of the same race, Osman the Dark Falcon, his beloved Zuleika, his comrades in war, and his enemies, form a connected group full of adventure. We have also for the extraordinary, if not the supernatural, a dervish of prodigious power, a higher range of Meg Merrilies, in an ubiquitous female, the Fakeereh, and an urchin dwarf, attached to her, and alike beyond humanity in appearance and action. Battles, captures, flights, imprisonments, escapes, executions, massacres, raids, and every turn of Fortune's wheel, cause the country to be traversed from end to end; so that we have pictures of its topographical features, and sketches of its population of Kuzzilbashes, Toorkas, Toorkamans, Khorasanees, Zendees, Goorkhurs, and other diversities or tribes.

In performing his task, which we regret to observe the author speak of as his last literary production, he assures us that his incidents and anecdotes are not merely historically correct as found in written authorities, but are derived from the information of contemporary individuals who bore a part in these bloody and busy scenes, and, among others, from the blinded brother of the merciless Shah. The only drawback upon this "representation" arises out of our own European ignorance, and the want of readily understanding the Persian terms with which their discourse is so plentifully interlarded. These somewhat distract us, and we feel incompetent to separate the real of the story from the ideal, or exactly to comprehend sentences in which the native style of phraseology prevails to such an extent.

But all can enter with interest into the Russian exploits of the Zend and Kajar struggle; and peruse with horror and indignation the frightful deeds which the possessor of despotic sway is destined to perpetrate. From these, as indicative of the style and nature of these volumes, we shall select our examples: they are cruel and dreadful; but we observe no other parts which we can detach so expediently from the thread of the narrative. Our first is a scene at the durkhaneh, where the shah administers what he may choose to inflict as justice or vengeance. We pass over the pomps and ceremonies so essential to eastern royalty; but "when Osman fixed his eyes upon the person of his sovereign, his wonder, almost his disgust, were powerfully excited by the singular meanness which characterised it; and when he traced the peculiar and, in truth, revolting expression of the features, which the deep-set piercing eye and strongly-marked

nose seemed alone to redeem from effeminacy, and the lamentable deficiency in that bulk and presence, so much valued by Persians in the persons of their rulers, he could not refrain from mentally asking, Could this be the celebrated Kajar chief, Aga Mahomed Khan? could this be the successful competitor, among so many bold leaders, for the throne? and from thinking how much better bestowed were that lofty station on his own chosen lord and master Jaaffer Koollee Khan. Business now began in earnest. The sovereign's command having been intimated to Baba Khan, Jaaffer Koollee Khan, and Meerza Sheffeah, these personages entered the gate, and soon appeared standing at the lower end of the balakhaneh, with their eyes fixed upon the ground. Persons were now called for by name; petitions were presented; complaints preferred, and promptly inquired into. The affair at one time regarded a province; at another, the grounds of a village. A kethodah, convicted of malversation, was ordered to receive the bastinado; and a governor, in arrear for revenue, was threatened with a summary collection by the hands of Gholams, if not placed in the minister's hands within a week. The affairs of the army received especial attention. The commanders of certain levies, just arrived, were introduced to make their obeisance, and officers were appointed to inspect and report upon their state and efficiency. On the other hand, stern denunciations were thundered against certain neighbouring districts which had failed of producing their appointed contingents. All was conducted with a systematic and business-like air, which proved the salaam to be no mere matter of form, but meant for actual work; and there was a silent bustle and an active movement, void of all confusion, which to a practised eye betokened the rapid and efficient despatch of business. During the progress of this busy scene the ear was more than once attracted by distant shouts and cries of 'Khüberdar! Rah beheh!' &c. as parties returning from service made their way to the durkhaneh. At length a still greater bustle, accompanied by the trampling of horse, caused every eye to turn towards the entrance of the ark, from whence a party of cavalry with mud-bespattered accoutrements and jaded steeds, proclaiming a long and weary march, were advancing towards the square of troops before the palace. Surrounded by the mounted troops were some individuals whose disordered garments and downcast looks sufficiently declared them to be prisoners. Their arms were bound behind their backs, and the bridles or halters of their horses were fastened to the saddles of the sowars; other captives wore the blue-checked chādārs, or veils of women, and rode upon mules; while from a pair of kajawahs, or covered baskets, used commonly for the conveyance of females, and borne by a stout yaboo, might have been heard the half-suppressed sound of woman's wailing. Little, however, was the time afforded for speculation or inquiry, for the party, having escorted their prisoners through the crowd, halted at the exterior rank of the square of troops, which opened to admit them. The escort then fell back and received orders to dismount, while their commander went

forward to report and present his prisoners. Although such occurrences at the court of a severe and determined sovereign, whose subjects were frequently engaging in evil or rebellious proceedings, were by no means rare, there was something in the appearance of the prisoners in question which excited a very general interest among the bystanders; and every head was bent forward, and each eye strained, to catch a sight of the unfortunate group. It consisted of two men advanced in life, whose habiliments bespoke a rank considerably above that of ordinary villagers; two others of a lower grade, and three young men, of whom one in particular was of a sufficiently prepossessing appearance. There were also several women besides those contained in the kajawah, which latter were permitted to remain there concealed. A low, half-suppressed murmur ran through the crowd, and reached the ears of Osman and his friend as they stood contemplating the captives—'From Savah!—the Zabit of Savah!—and his brother of Mishkabad!—ai-vai ai-vai! what has come over them? what dust has fallen on their heads?' The women, so soon as they found themselves thus brought forward, and comprehended where they were, began to prostrate themselves, uttering loud lamentations and cries of 'Amaun! amaun!—for the sake of Allee—for the sake of the blessed Fatimah—in the name of the holy prophet!—while the old men, placing themselves, as far as their bonds would permit, in attitudes of the humblest entreaty, made less noisy appeals for mercy and pardon. At a signal from the balakhaneh, a nasackchee stepped forward and commanded silence in an accent and with gestures which speedily enforced compliance. The clamour of the women sunk at once into a low wail: while the men, in silent anxiety, bent their eyes upon the being in whose hands they felt their earthly doom to rest. Their suspense was not suffered to endure long. The commander of the party gave in his report, which did not of course reach the ears of Osman at the moment; but we shall give its purport in order the better to explain the scene which followed. The conduct of the hakim of Savah, in withholding his contingent, as already mentioned, had so deeply exasperated the Kajar monarch, who saw in it not only a wavering loyalty on the hakim's part, but a ruinous example to the central district governors, if allowed to go unpunished, that he resolved to inflict a chastisement which should strike terror into all other would-be rebels, and produce a prompt, if not a willing, obedience."

After some formal proceedings:

"There was then a pause, and a deep anxious silence; during which the shah, beckoning to his minister, held with him a short conversation. The meerza then retired back to his place; and at a signal given, two nasackchees stepped forward, and seizing hold of the hadgee, who trembled so violently that he could scarce stand alone, led him forward towards the balakhaneh. The unhappy man broke out into earnest supplications for mercy, and would have prostrated himself but for the officials who held him on either side, and who sternly enjoined silence. That silence was broken by

the shrill harsh voice of the shah himself. 'At length thou hast made thy appearance—thou art welcome! Unhappy wretch! Thou hast eaten thy fill of abomination, and now comest to receive thy reward. Once did we spare thee, upon thy solemn oath of future loyalty and fidelity; and how hast thou kept that oath? Thou didst believe that our power was curtailed and our arm shortened, that it could not reach thee, and thou hast basely turned against him who had shewn thee mercy and forgiveness—against thy prince, to whom thou didst swear to be faithful and true. Doubly traitor, to us and to the Zend: thou art now convinced, too late, that our arm is yet long enough to seize and to punish wretches who attempt to play with us the dangerous game of treason.' 'Amaun, amaun!—mercy, mercy! It is true, I have erred: I have eaten filth, indeed! but by the holy prophet of Islam, by your own august head, let thy slave be but forgiven this once, and for ever after he will be faithful to the presence—never again will he depart from his duty!' 'Thou art right there—in truth he shall not: we swear it by our own life!' retorted the shah, whose features had put on the hard, contemptuous sneer which was wont, on such occasions, to characterise them, and which betokened too faithfully that there was no mercy there. 'No man deceives us twice; but still thou shalt be fairly dealt with: Allah forbid that we should refuse thee full justice. Thus, then, stands the case. Thou didst swear to obey our commands; to discharge faithfully towards us thy obligations as zabib of thy district, among which was that of providing a certain number of men for our service, and a specific amount of money and stores. We ask of thee now, how hast thou fulfilled these obligations? We demanded that contingent—our acknowledged right—no more; and now we ask thee, where is it?—where are the troops?' 'By the life of the presence! by my own death, I swear that the thing was impossible! but, inshallah! they shall be produced—by the head of the shah they shall, in five days.' 'Pah! base-born hypocrite—abject deceiver! wilt thou still hope to cajole us? Impossible! saidst thou, wretch? Look here—look at this paper: there—hand it to him: let him examine it, and answer if he dare.' The unhappy wretch started at sight of the scroll; but making a desperate effort to recover himself, he exclaimed, 'It is nothing—by your souls it is nothing!' but he was silenced by a blow on the mouth from an iron-heeled slipper. A signal was then made, and three men started forth, truculent-looking fellows, clad in dark-coloured garments. These were the *furosha-e-ghuzub*, ministers of wrath, well known by the heavy swords slung under the left shoulder, and wearing in their belts the dagger and knife used in their dreadful trade. As these men seized the miserable hadjee and forced him to his knees, a shriek, wild and irrepressible, arose from the women; and one of the young men, a fine-looking youth, the best-favoured of them all, breaking from those who held him, rushed forward, and, flinging himself prostrate beside the old hadjee, cried, 'Amaun, amaun! may I be your sacrifice: spare my father, and take this life for his!' A murmur of pity and applause burst at this sight from the spectators; but the shah, cold and unmoved, as it seemed, calmly signed to have the lad removed; and accordingly he was borne away to the spot whence he came, passionately reiterating his appeals and supplications. In the mean time, after the lapse of some seconds, accorded, perhaps, to allow the ebullition of

feeling excited by this incident to subside, the royal head was seen to nod; the fatal word, *bekoash*—slay, was uttered, the dark blade waved in the air, and in another moment the head of the victim flew forward almost to the very gateway; while the trunk, after a few convulsive struggles, lay quiet and motionless in the pool of gore which spouted in streams from the gaping arteries. Such scenes were too frequent at the durkhaneh of Tehran to call forth more than a momentary shudder, and that only from those of the spectators least accustomed to them."

Two other similar scenes, cruel and remorseless, will form our concluding notice.

Lucy Hardinge: a Second Series of Afloat and Ashore. By the Author of the "Pilot," &c. 3 vols. R. Bentley.

This new work of Mr. Cooper's bears the family features of its predecessors. "Ashore" the author does not rise above the general mass of fair popular novelists; but "Afloat" he is at home, descriptive and spirited. In these volumes, however, we find the early death of a young lady, Grace Wallingford, broken-hearted through misplaced love, very natural and affecting; and the death of a singular old weather-beaten sailor, called Marble, very characteristic. At sea there is every choice of adventures, captures by English and French, escapes of marvellous dexterity and resolution, battles and wrecks, and, in short, every species of nautical vicissitude. The descriptions will probably be most relished by those who understand seamanship; but even landsmen must taste their variety and vivid colouring.

The author, confessing to the sober age of sixty and upwards (upwards in such cases meaning downwards?), tells us he is not apt to see the world so much *en beau* as when he was younger; and offers some excuse for the political opinions and other national doubts which he may have expressed in this publication. But shut out as we are systematically from meddling in our reviews with the mysteries of novel-writing, we are glad that Mr. Cooper has given us other matter from which we can select our examples of his sexagenarian ability. Of the political portion he writes:

"There are certain political allusions, very few in number, but pretty strong in language, that the signs of the times fully justify in the author's judgment; though he does not profess to give his own sentiments in this work, so much as those of the subject of the narrative himself. 'The anti-rent combination,' for instance, will prove, according to the author's conjectures, to be one of two things in this community (the United States)—the commencement of a dire revolution, or the commencement of a return to the sounder notions and juster principles that prevailed among us thirty years since than certainly prevail to-day. There is one favourable symptom discoverable in the deep-seated disease that pervades the social system; men dare, and do, deal more honestly and frankly with the condition of society in America than was done a few years since. This right, one that ought to be most dear to every freeman, has been recovered only by painful sacrifices and a stern resolution; but recovered it has been in some measure; and were the pens of the country true to their owners' privileges, we should soon come to a just view of the sacred nature of private character, as well as the target-like vulnerability of public follies and public vice. It is certain that, for a series of dangerous years, notions just the reverse of this have prevailed

among us, gradually rendering the American press equally the vehicle of the most atrocious personal calumny, and the most flutulent national self-adulation. It is under such a state of things that the few evils alluded to in this work have had their rise. Bodies of men, however ignorant or small, have come to consider themselves as integral portions of a community that never errs, and consequently entitled to esteem themselves infallible. When in debt, they have fancied it political liberty to pay their debts by the strong hand; a very easy transition for those who believe themselves able to effect all their objects. The disease has already passed out of New York into Pennsylvania; it will spread, like any other epidemic, throughout the country; and there will soon be a severe struggle among us, between the knave and the honest man. Let the class of the latter look to it. It is to be hoped it is still sufficiently powerful to conquer."

He returns to the condition of the American press in the body of the work; and Dickens himself has not spoken more disparagingly of its worthlessness. Thus in vol. ii. p. 147:—

"How often, and how much, have I seen reason to regret the influence that is silently obtained amongst us, by our consenting to become the retailers of other people's prejudices! One of the reasons why we have so long been mere serviles on this point is owing to the incompleteness of the establishments of the different leading presses of the country. We multiply instead of enlarging these enterprises. The want of concentration of talent compels those who manage them to resort to the scissors instead of the pen; and it is almost as necessary for an American editor to be expert with the shears as it is for a tailor. Thus the public is compelled to receive hashes instead of fresh dishes; and things that come from a distance notoriously possessing a charm, it gets the original cookery of London instead of that of their own country."

But in vol. iii. the absolute satire is more strong. The hero, Wallingford, after all his misadventures, returns to America, whither rumours of his ship's capture, &c. have preceded him in all the usual veracity of newspaper report. He then relates:—

"Marble and I had dined, and were preparing to saunter forth on a walk up Broadway, when I saw a meagre, care-worn, bilious-looking sort of person enter the house, and proceed towards the bar, evidently with an inquiry concerning some of the inmates. The bar-tender pointed at once to me, when the stranger approached, and with a species of confidence that seemed to proclaim that he fancied news to be the great end of life, and that all who were engaged in its dissemination were privileged beings, he announced himself as Colonel Warbler, the editor of the 'New York Republican Freeman.' I asked the gentleman into the common sitting-room, when the following dialogue took place between us:—'We have just heard of your arrival, Captain Wallingford,' commenced the colonel,—all New York editors of a certain calibre seeming to be, *ex-officio*, of that blood-and-thunder rank,—and are impatient to place you, as it might be, *rectus in curia*, before the nation. Your case excited a good deal of feeling some months since; and the public mind may be said to be prepared to learn the whole story, or in a happy condition to indulge in further excitement. If you will have the goodness to furnish me with the outlines, sir, coolly producing pen, ink, and paper, without further ceremony, and preparing to write—I promise you that the whole narrative shall

appear in the 'Freeman' of to-morrow, related in a manner of which you shall have no reason to complain. The caption is already written; and if you please, I will read it to you before we go any further.' Then without waiting to ascertain whether I did or did not please to hear him, the colonel incontinently commenced reading what he called his caption. 'In the Schuykill, arrived lately at Philadelphia, came passenger our esteemed fellow-citizen, Captain Miles Wallingford.' In 1804 everybody had not got to be 'esquires,' even the editors not yet assuming that title of gentility *ex-officio*. 'This gentleman's wrongs have already been laid before our readers. From his own mouth we learn the following outline of the vile and illegal manner in which he has been treated by an English man-of-war called the Speedy, commanded by a sprig of nobility yeelped lord—I have left a blank for the name—' an account which will awaken, in the bosom of every true-hearted American, sentiments of horror, and feelings of indignation, at this new instance of British faith and British insolence on the high seas. It will be seen by this account, that not satisfied with impressing all his crew, and in otherwise maltreating them, this scion of aristocracy has violated every article of the treaty between the two countries, as respects Captain Wallingford himself, and otherwise trodden on every principle of honour;—in a word, set at naught all the commandments of God. We trust there will be found no man, or set of men, in the country, to defend such outrageous conduct, and that even the minions of England, employed around the federal presses of our country, will be ready to join with us on this occasion in denouncing British aggression and British usurpation.' There, sir, I trust that is quite to your liking.' 'It is a little *ex parte*, colonel, as I have quite as much complaint to make of French as of English aggression, having been twice captured, once by an English frigate, and again by a French privateer. I prefer to tell the whole story, if I am to tell any of it.' 'Certainly, sir; we wish to relate all the enormities of which these arrogant English were guilty.' 'I believe that, in capturing my ship, the English commander did me an act of great injustice, and was the cause of my ruin.' 'Stop, sir, if you please,' interrupted Colonel Warbler, writing, with rapidity and zeal, 'and thus caused the ruin of an industrious and honest man'—ay, that ends a period beautifully;—well, sir, proceed.' 'But I have no personal ill-treatment to complain of; and the act of the French was of precisely the same character, perhaps worse, as I got rid of the English prize-crew, when the Frenchman captured us in his turn, and prevented our obtaining shelter and a new crew in France.' Colonel Warbler listened with cold indifference. Not a line would he write against the French, belonging to a very extensive school of disseminators of news who fancy it is part of their high vocation to tell as much, or just as little, of any transaction, as may happen to suit their own purposes. I pressed the injuries I had received from the French on my visitor, so much the more warmly, on account of the reluctance he manifested to publish it; but all to no purpose. Next morning the 'Republican Freeman' contained just such an account of the affair as comported with the consistency of that independent and manly journal; not a word being said about the French privateer, while the account of the proceedings of the English frigate was embellished with sundry facts and epithets that must have been obtained from Colonel Warbler's general stock

in trade, as it was certainly not derived from me. As soon as I got rid of this gentleman, which was not long after he discovered my desire to press the delinquency of the French on his notice, Marble and I left the house, on the original design of strolling up Broadway, and of looking at the changes produced by time. We had actually got a square, when I felt some one touch my elbow; turning, I found it was an utter stranger, with a very eager, wonder-mongering sort of a countenance, and who was a good deal out of breath with running. 'Your pardon, sir; the bar-tender of the house where you lodge tells me you are Captain Wallingford.' I bowed an assent, foreseeing another application for facts. 'Well, sir, I hope you'll excuse the liberty I am taking, on account of its object. I represent the public, which is ever anxious to obtain the earliest information on all matters of general concernment, and I feel emboldened by duty to introduce myself—Colonel Positive, of the 'Federal Truth-Teller,' a journal that your honoured father once did us the favour to take. We have this moment heard of the atrocities committed on you, Captain Wallingford, by a brigand of a French piratical, picarooning, plundering vagabond,'—reading from what, I dare say, was another caption, prepared for the other side of the question;—'a fresh instance of Gallic aggression, and republican Jacobinical insolence; atrocities that are of a character to awaken the indignation of every right-thinking American, and which can only find abettors among that portion of the community which, possessing nothing, is never slow to sympathise in the success of this robber, though it be at the expense of American rights and American prosperity.'

This fellow is as strenuously anti-French (it is in the Bonaparte time) as the other is anti-British; but in reading the whole, it is most to be remembered that it is Mr. Cooper, in 1844, who is thus painting the periodical press of his country.

In glancing at really the stem of the story, of which these are rather leaves than even twigs, we may remark, that some of the words put into the mouth of Marble are coarsely and vulgarly offensive; but to redeem this blame we must copy a little of his ending. He had commanded the vessel in which his old captain, wife, and children, had made a trip to Europe; and "had held on, with a determination to convey us all back to Clawbonny. Three days after we had sailed, the man of stone had to give up and take to his berth. I saw that his days were numbered, and felt it to be a duty to let him know his real situation. It was an unpleasant office, but became less so by the resigned and manly manner in which the invalid heard me. It was only when I ceased speaking that he made an attempt to reply. 'I have known that the v'y'ge of life was pretty near up, Miles,' he then answered, 'for many a day. When the timbers complain and the new tree-nails hit only decayed wood, it is time to think of breaking up the hull for the craft's copper and old iron. I've pretty much worn out the Smudge, and the Smudge has pretty much worn out me. I shall never see Ameriky, and I now give up charge of the craft to you. She is your own, and nobody can take better care of her. I own I should like to be cased in something that once belonged to her. There's the bulkhead that was taken down to alter the state-rooms for your family, it would make as comfortable a coffin as a body could want.' I promised the old man all should be done as he desired. After a short pause, it struck me the present might be a favourable moment

to say a word on the subject of the future. Marble was never a vicious man, nor could he be called a particularly wicked man, as the world goes. He was thoroughly honest, after making a few allowances for the peculiar opinions of seamen, and his sins were principally those of omission. But of religious instruction he had literally known none in early life. That which he had picked up in his subsequent career was not of the most orthodox character. I had often thought Marble was well disposed on such subjects, but opportunity was always wanting to improve this hopeful disposition. Accordingly, I now spoke plainly to him, and could see his still keen eyes turned wistfully towards me, more than once, as he listened with an absorbed attention. 'Ay, ay, Miles,' he answered, when I was through, 'this may all be true enough, but it's rather late in the day for me to go to school. I've heard most of it before, in one shape or another; but it always came so much in scraps and fragments, that before I could bend one idee on to another, so as to make any useful gear of the whole, some of the pieces have slipped through my fingers. Hows'ever, I've been hard at work at the good book the whole of this v'y'ge, and you know it's been a long one; and I must say that I've picked up a good deal that seems to me to be of the right quality. Now I always thought it was one of the foolishest things a man could do to forgive one's enemies, my rule having been to return broadside for broadside, as you must pretty well know; but I now see that it is more like a kind natur' to pardon than to revenge.' 'My dear Moses, this is a very hopeful frame of mind; carry out this feeling in all things, leaning on the Saviour alone for your support, and your dying hour may well be the happiest of your life.' 'There's that infernal Smudge, notwithstanding; I hardly think it will be expected of me to look upon him as anything but a 'long-shore pirate, and a fellow to be disposed of in the shortest way possible. As for old Van Tassal, he is gone to square the yards in a part of the universe where all his tricks will be known; and I hold it to be unreasonable to carry spite ag'in a man beyond the grave. I rather think I have altogether forgiven him; though, to speak the truth, he deserved a rope's-ending.' I understood Marble much better than he understood himself. He felt the sublime beauty of the Christian morality; but at the same time he felt there were certain notions so rooted in his own heart that it exceeded his power to extract them."

He leaves, on his death-bed, his "baccy-box" to Neb, his ancient negro comrade:

"Use that for my sake, Neb," he said. "It is full of excellent tobacco, and the box has the scent of thirty years in it—that being the time it has sailed in my company. That box has been in nine fights, seven wracks, and has seen more boat-sarvice than most London watermen, or any Whitehall of 'em all. Among other exploits, it has been round the world four times, besides having run the Straits of Magellan in the dark, as might be; as your master and you know as well as I do. Take that box, therefore, lad, and be particular, always, to put none but the best of pig-tail in it—for it's used to that only. And now, Neb, a word about a little duty you're to do for me when you get in. Ask your master, first, for leave, and then go up to Willow Cove and carry my blessin' to Kitty and her children. It's easy done, if a man sets about it in the right spirit. All you have to do is to go up to the Cove, and say that I prayed to God to bless 'em all before I died. Do you think you can remember that?" 'I

try, Cap'in Marble, sah; yes, sah, I try all I can, dough I'm no scholar."

"But we must close, and do so with Mr. Cooper's brief remarks on an American visit to the old country:

"That America is the greatest country of ancient or modern times, I shall not deny. Everybody says it; and what everybody says must be true. Nevertheless, I will venture to hint, that, *ceteris paribus*, and where there is the disposition to think at all, the intellectual existence of every American who goes to Europe is more than doubled in its intensity. This is the country of action, not of thought or speculation. Men follow out their facts to results instead of reasoning them out. Then the multiplicity of objects and events that exist in the old countries to quicken the powers of the mind has no parallel here. It is owing to this want of the present and the past which causes the American, the moment he becomes speculative, to run into the future. That future promises much, and, in a degree, may justify the weakness. Let us take heed, however, that it do not lead to disappointment."

The History of Sweden. Translated from the Original of Anders Fryxell, by Anne Von Scholtz. Edited by Mary Howitt. 2 vols. R. Bentley.

A good deal of the freshness of this work has been anticipated by Mr. Laing's *History of the Northern Vikings* (see *Lit. Gaz.* No. 1415), composed from sixteen of the ancient sagas, out of which Anders Fryxell could alone draw his early materials. The two parallel accounts are, accordingly, pretty closely alike, and especially so far as the first of the two volumes before us goes; the two together being from the fabulous time of Odin to the fall of Eric XIV., who was deposed in 1569.

Yet it is in the oldest records that we feel the greatest interest. The wild fictions, superhuman legends, quaint descriptions,—and yet all developing the feelings and manners of a remarkable period,—address themselves potently to the imagination; and when we have once read ourselves into the consonant humour, we go along as cordially with these marvellous heroes as if they were individuals of the same stature and nature as ourselves. But, even to the end of the epoch included in this portion of the annals of Sweden, there is so much of superstition, credulity, and invention, that we need care very little from which end of the tale we take our illustrations. Fancy-led, as we have confessed, we begin at the beginning, and ask our friends what they think of Odin's tax upon noses?

"Odin (we are told) imposed a tax for every nose, or person in the country: this was called the nose-tax. He also ordered that every dead person, with his possessions, should be burnt on a pyre; and the higher the flame arose, the greater was the glory of the dead in Walhalla. The ashes were to be buried, and cairns raised above the graves of men of high descent; but Bauta stones were to be set up to the memory of those who had done great actions. He also taught that those who had fallen in combat, or otherwise met with a violent death, would come to him in Walhalla, and there enjoy great happiness. He therefore chose not to die a straw-death (in his bed on straw); but when he understood that his end was approaching, he caused himself to be pricked or marked with the point of a lance (*geirsodd*), and thus died, saying he was going before to Walhalla to prepare great joy for his followers."

Now o'-days the nose-tax is levied upon

(what Odin was not up to) snuff; and our political economists would hardly reconcile themselves to the destruction of property as in these remote pagan funerals. "Bauta stones" deserved an explanatory note; and the last piece of information corrects, if we remember rightly, a misapprehension of Mr. Laing's, who supposes the *geirsodd* to be a sign of the cross, and connected with Christianity, instead of being, as it was, a very remarkable heathen rite to entitle the dying to a place with Asgard in the mansions of the old gods. But we will now descend a very little in date for a sample of the saga legend:—

"In the remote valleys of Norway lived, at that period, a tributary king named Ring. He had been a widower; but, in his old age, had married a woman from Finland, called Hvita, who was certainly beautiful, but full of all manner of iniquity and malice, and had, moreover, a violent hatred for her step-son, the king's son Björn (bear). At the time that this saga was first written, the people still believed in witchcraft; and the inhabitants of Finland were considered to be particularly expert in it. It was therefore reported that Queen Hvita, by her enchantments, transformed the king's son into a bear. It was said that, in the day-time, he went into the fields and fed on the king's cattle; but every night he reassumed his human form, and wept and lamented over his unhappy situation. The queen was urgent that this mischievous beast should be destroyed. A great hunt was commanded; and the bear was finally killed. Björn had a paramour called Berg, who became shortly after the mother of three sons, Elgfröde, Tore, and Bodwar. These three shot up like grass, and soon became taller and stronger than other men, so that it was no joke to sport with or to tease them; and it often happened that, when they were at play with the king's men, they handled them so roughly, that they were maimed, and often wounded to death in consequence. This was especially the case with Elgfröde; for he was the strongest and the wildest. He therefore soon took leave of his mother, saying that he no longer chose to dwell with such weak and miserable men; and then set forth eastward towards Edaforest, through which the road passes between Norway and Sweden. He here settled himself in a cave, where he became a most cruel robber, attacking, plundering, and killing all who journeyed by. Shortly after, Tore also took leave of his mother, and set out eastward. When he arrived at the mountains, he met with Elgfröde, who offered him the half of the property he had acquired, if he would remain with him; but Tore refused, and journeyed on further to Gothaland, where, for the sake of his royal appearance and great bravery, he was chosen king, and ruled the kingdom with might and glory. Bodwar was both more beautiful in person and gentler in character than his brothers; for which reason his mother loved him most. One day he questioned her about his descent, when she related every thing about Hvita's witchcraft and wickedness, as also his father's death. Then was Bodwar wroth, and went up to his grandfather the old King Ring, informing him of what had been done to his son Björn. The king offered to pay a great fine for the queen; but Bodwar would take no money for his father's life, but took possession of Hvita. She was obliged to suffer the most cruel and ignominious death; and none either would or dared undertake her defence. Shortly after, King Ring died, and Bodwar was appointed king in his stead; but he felt himself easy on his throne only a little while. He collected his people at

a general ting, and announced to them that he was about to leave the country; but meanwhile he left the kingdom to his mother, whom he married to Ulfsteier Järl. He first attended this marriage, and then set out eastward. On this journey he came to Elgfröde's cave; and there was no small joy between the brothers when they recognised each other. Elgfröde desired Bodwar to remain with him, offering him the half of his treasures; but Bodwar said, 'he did not think it was right to murder people for the sake of their possessions,' and prepared to depart. When Elgfröde saw that he would not remain, he counselled him to travel to Rolf Krake in Denmark, and accompanied him on the way, informing him how 'he had granted many an unnamed man his life.' This pleased Bodwar, who begged him to let others also go in peace. As they were about to part, Elgfröde seized hold of Bodwar, and shook him, saying, 'Thou art not yet so strong, brother, as thou needst to be.' He therefore cut a hole in his leg, and gave Bodwar of the blood to drink. He then seized hold of him again; but Bodwar stood now so firm, that even Elgfröde had no power to move him from the place. Then Elgfröde said: 'Thou hast now strength sufficient; and I think thou wilt be found to surpass all other men in courage and manliness.' Then Elgfröde struck his own foot into the rock, so hard that it left a deep mark; and spoke thus: 'Every morning I shall visit this mark. If it is full of earth, I shall know that you have died in your bed; if of water, that you are drowned; but if there is blood in it, then you are slain with the sword, and I will seek to revenge your death; for I love you most of all my friends.' Hereupon the brothers parted: Elgfröde reascended the mountains; but Bodwar continued his route southward. In this manner he reached Gothaland, where his brother Tore was king; and Bodwar remained there awhile, entertained with much hospitality and distinction. Tore likewise offered to share his possessions with him, if Bodwar would remain with him, or otherwise to give him armed men to accompany him on his journey; but Bodwar refused both offers, preferring to depend upon himself alone. When he had thus taken leave of his brother, he continued his journey still further to the south. When Bodwar had at last come down to Denmark, not far from Lejre, it happened that he could find no night-quarters, and was obliged to ride out in rain and darkness, though his horse was perfectly knocked up. At last he hit against something nigh, which impeded further progress. Bodwar alighted, in order to find out what it was, and discovered a little house. He knocked, and was cordially received by an old man, who, with his wife, lived in the cottage. As Bodwar related his intention of travelling to King Rolf's court, the old man and his wife began to discourse upon the king's men and their sports. The old man told him that, at the entrance of the king's castle lay a large stone, which, whoever would be accepted into the king's service, must shew himself able to lift. There were also two large dogs, the one as strong as six, the other as ten men; and neither was he who could not measure himself with the smaller of these admitted amongst the proud warriors. As Bodwar and the old man were conversing, the poor old woman began to weep aloud. 'Why weepest thou?' asked Bodwar. 'Ah!' said she, 'we had once a son called Hottur, who went to the king's court for pleasure; but the men-at-arms made joke of him, and set him in a heap of bones in a corner of the hall; and it is now their amuse-

ment, during meals, to throw the bones they have picked upon him, which sometimes wound him sadly. I shall never get him back again; neither do I know if he is dead or alive. Now I ask nothing of thee for this thy night's lodging, but that thou wilt not cast the large, but only the little bones on our son; for thy hands seem so strong and so heavy, that he could scarcely bear a blow from them.' Bodwar promised this, and expressed his opinion that he did not think it very creditable to beat a man with bones, or to use rough play with children or weak people."

The sequel of this story is long, and diverges into many branches; but the foregoing specimen will serve as a taste of its whole quality. The Viking code of alliance is thus stated:—

1. Never to eat raw meat or drink blood, for that they are considered as food for wolves, and not for men. 2. Never to plunder merchant-boats or peasants, but to pay for every thing which they went on shore to provide. 3. Never to offer violence to women. He who breaks these shall lose his life, whoever he may be."

Upon these terms, Hjalmar and Odd concluded a fraternal compact, and set out together against twelve terrible berserks at Samsö, whom they slew, but not without Hjalmar receiving a mortal wound from their champion Angantyr, with his sword Tírfing, which pierced every thing, and assured its master of victory. Odd, however, was preserved by a silk shirt which could not be cut; and he, after killing the other eleven, "went to the place where Hjalmar and Angantyr had fought. Angantyr was then fallen, but Hjalmar sat leaning against a hillock on the ground. Odd went to him, and quoth:

How art thou, Hjalmar?
Why changes thy colour?
Thou art sore troubled
With deep and great gashes.
Cleft is thy helmet,
Pierced is thy armour;
Thy life I see now.
On thy last journey.

Hjalmar answered:
Wounds have I sixteen,
And a cleft helmet.
Dark is it before my eyes,
I cannot walk now.
Angantyr's sword
Drank of my heart's blood,
With its keen edge
Tempered with poison.

'Now I have seen the greatest sorrow I can suffer in life,' said Odd; 'and thy counsel has turned out ill, otherwise we should here have gained a glorious victory.' Hjalmar answered: 'Every man must die at last; but thou shalt carry my farewell home to Sweden.' He then sang his death-song, declaring his preference of a sea-life before a peaceful one on shore; his parting with the king's fair daughter, and desiring his helmet and cuirass to be brought into the king's halls and shewn to all, when he thought her heart would heave at the sight of the cuirass cleft at the breast; and ended by desiring the ring of red gold to be taken off his finger and given to her, as a confirmation of the words she had spoken herself at their parting, that they should never meet again. He then gave the ring to Odd; and afterwards requested to be carried to Upsala, and not buried amidst these wicked and wizard-like berserks. He then sent his last salutation to his brothers in arms, and sung finally:

Sitting with monarchs
Many a warrior
Drinks ale with joy
In Upsala city.
Many a one bows him
Before the strong mead-cup.
But me, my wounds keep me
Here on the sea-shore.

The crow from the south now
Comes over the heath,
The high-soaring eagle
Followeth after.
He shall suck up
The red blood, the frothy.
I have cut eagle's food
Now for the last time.

Thus died Hjalmar. Odd drew all the berserks together, letting each retain his weapons, and laid Tírfing under Angantyr's head. He then threw up great mounds over them, and did the same with his own men. He then carried Hjalmar down to the ship. It is related of Odd, that he believed neither in Odin nor Thor, nor any other divinity save his own strength and fortune, which was said to have been so great that, if he but hoisted his sail, he obtained favourable wind for whatsoever place he desired to visit. In this manner he now sailed to Sweden. He drew the ship on shore, took the body of Hjalmar on his shoulders, and thus returned to Upsala. He laid Hjalmar down without the hall-door, and then entered, carrying his friend's helmet and cuirass in his hand. These he laid down before Ane, and related the fall of Hjalmar. Afterwards he went to Ingeborg, who was seated in her chair embroidering a mantle for Hjalmar. Odd presented himself before her, and said: 'Hjalmar saluted thee, and sent thee this ring, in his dying moment.' Ingeborg took the ring, looked at him, answered nothing, and sunk down dead at his feet. Then Odd took her up, and bore her forth, and laid her in Hjalmar's arms, saying: 'Now may the dead enjoy that bliss which fate denied the living.' Odd afterwards desired that Hjalmar's funeral-feast should be celebrated, and he and Ingeborg buried in the same mound. King Ane allowed him to do as he pleased; and thus a stately cairn was raised above them. Odd afterwards wandered wide about the world, and none could ever conquer him. He also reached Jerusalem and became a Christian, and many tales are told of his prowess. But the great cairns over the warriors in Samsö were seen for many hundred years; and a saying went out amongst the people, that at night great fires blazed out of them, and a great sound was heard over the whole island from the entombed berserks."

[To be concluded in our next.]

The Handbook to the Pianoforte, &c. By J. A. Wade. London, Whittaker and Co.

THE author of this *Handbook* has long been favourably known to the musical world, and we are glad to see from his pen this practical and useful work upon the pianoforte. Till within a few years students in music generally, and learners of the piano in particular, were too often dependent on little better than mere "rule-of-thumb" teachers and the crude instruction-books of incompetent quacks. Of late, however, the achievements of such masters as Liszt, Thalberg, &c., have not only given an impetus to the old school, but shewn those who would undertake to instruct even the veriest "beginner," that sound knowledge of their subject, founded on practical experience and scientific acquirement, is absolutely necessary to that measure of success at which every sensible student now aims. Of his scientific attainments in the school of music, Mr. Wade has given good evidence in his numerous and varied compositions; and of his fitness not only for imparting this knowledge to others (which he here does in a very lucid and terse manner), but also to aid the pianoforte-student in mastering the most difficult and effective modes of our greatest performers on the instrument, no

one can doubt after going through this *Handbook*. From the first "example" to the last "exercise," every thing is brought before the learner in the clearest manner, and the means of conquering each new difficulty as it arises literally placed at his fingers' ends. Indeed, after carefully digesting some sixty pages, and mastering the "digital" and other exercises here given, he need not fear the thickest army of semi-demi-semis, or the most whimsically noted passage of the most gifted manipulator of the key-board. The work comprises in addition a brief and excellent treatise on the elements of harmony, developing the laws of composition in a simple and sound manner; and we altogether warmly recommend the book to public favour.

Handbook of Bible Geography. Pp. 100.

London, J. W. Parker.

WITH some small but neat and clear maps, this alphabetic account of the places mentioned in the Bible is a very useful accompaniment for the better understanding of the sacred book for young and older people.

The Elephant. XV. of "Knight's Weekly Volume."

Is a complete collection of all kinds of various elephant-stories, curious in natural history and thoroughly entertaining throughout. We were, nevertheless, amused with the finale of an elephant at Geneva, in 1820, which went mad, like our old friend the Exeter-Change Chuni, and which the writer tells us, "when running wildly about the town, and attacking every one who came in his way, yielded the most prompt obedience to the female whose property he was, and suffered himself to be led by her to a place of safety, where—he was killed!"

The Waverley Novels. Vol. VI. of the *Abbotsford Edition*. Edinburgh, Cadell; London, Houlston and Stoneman.

THE fine romance of *Kenilworth* and the *Pirate* are the contents of this handsome volume, which is illustrated, like its predecessors, with productions by our first painters, draughtsmen, and engravers. Some curious antiquities are etched with the text as tailpieces, and add much to the interest of the reader.

Burke's Genealogical and Heraldic Dictionary of the Landed Gentry of Great Britain and Ireland. Part III. London, Colburn.

NOT only as a companion to Messrs. Burke's *Peerage and Baronetage*, but intrinsically for its own intelligence, this work possesses a value of many kinds. Its account of our gentry has far more of novelty than any history of nobility could rake up. The ancient lineage of many of them supplies a mass of singularly curious matter; and the whole presents so many features of family anecdote and interest, that it may absolutely be taken up for amusement. Another Part, we presume, will complete the publication, as this comprehends from the letter M to R.

Tom Burke of Ours. Dublin, Curry jun. and Co.

THE two handsome volumes in crimson binding, with the plates smooth and well pressed, are now among the ornaments of our light-reading shelves, from which to snatch an amusement and relaxation from graver toils; but we have nothing to add to our few remarks on the reception of the closing No. of this popular tale.

The Star of the Court. By Miss S. Bunbury.

Pp. 161. Grant and Griffiths.

THE story of Anne Boleyn made, as it were, into a moral lesson. It is told in a quaint and pleasing style.

ARTS AND SCIENCES.

THE BRITISH ASSOCIATION (YORK).

WE are pleased to commence our report this week with an abstract of the leading, indeed the only paper, excepting perhaps Prof. Forchhammer's, read at York, opening out new and important views. As the abstract, however, to be correct, is somewhat technical, we would premise, for the information of those not deeply read in zoology and botany, that the interest of the paper depends on the novel views unfolded in the history of animal life, and the wonderful correspondence which it shews to exist between the laws which regulate the forms and functions of plants and those which determine them in animals. The doctrine of the morphology of the flower, in which the great poet Goethe took so much delight, and of which he was the founder,—for the disciples of Linnæus till long after Goethe's time were not aware that it was contained in the works of their great master,—is now universally admitted, and the formation of the parts of the flower out of transformed leaves is a fact familiar to every gardener; but that precisely the same phenomenon occurred in the animal kingdom was unsuspected, although, as was the case with the plant before Goethe's time, the proofs were every day before us, though none of us saw them. So evident are the workings of the law made known in the following paper, that, with the creatures described before them, all the naturalists in the Section at once assented to its truth, and their wonder was how it had not been seen before. But there are some truths which come like sudden gleams of light upon our minds, and this is one of them—one, too, which must materially influence the future prospects of zoology.

ABSTRACT OF A PAPER, BY PROF. E. FORBES, On the Morphology of the Reproductive System of the Sertularian Zoophytes, and its Analogy with the Reproductive System of the Flowering Plants.

In this paper the author endeavours to prove that in one tribe at least of composite animals, viz. the sertularian polypes, the arrangement and offices of individuals and the parts of the animal entirely depend on the same laws which determine the arrangement and offices of the parts of the composite plant. The sertularian polype is a branched and horny plant-like polypidom—every polype of which is an individual distinct in itself and acting for itself, yet besides that individual life sharing in the common existence of the whole, and obeying in reference to its brethren the laws which determine the characters of the species, the constant form and arrangement of the parts of the whole. The entire mass originates with a single individual, as the entire plant originates with a single phytom. The type of the animal individual is a simple stomach, that of the vegetable a simple gill.

At certain periods in the life of the zoophyte there appear projecting from the axis, or suspended from its branches, variously formed bodies, usually very dissimilar from the other parts of the whole—in some species pod-shaped, in others flask or urn-shaped—in which the ova appear. These have been termed "ovigerous vesicles;" and many opinions have been entertained respecting their nature and origin. Prof. E. Forbes holds that their true nature has hitherto been unexplained. He argues that if the parallel between the plant and the zoophyte be true, these problematical bodies should be essentially either single individuals ideally metamorphosed into reproductive organs, comparable to the *monocarpous* germens

of plants, or series of individuals joined together, and merged into each other in such a manner as to present the appearance of a unique body, in which the ova are produced, comparable to the *syncarpous* germens of vegetables. Reviewing the several forms of vesicle presented by the *Sertulariadae*, he groups them under six types, taking the apparently complex, but in reality simple, pod of the *Plumularia* as the key, and shews that they may all be explained by the application of this view of their nature, however transcendental it may at first sight appear. They are all *metamorphosed branches*, either of the first order (primary axes) or of the second or third (secondary and tertiary axes), and are severally explainable on the supposition of union of parts, or of suppression of some of the elements of a branch, as of some of the cells, or of the central rib or axis, or of the internodes of that axis.

This theory of the nature of the ovigerous vesicle may be stated in the abstract thus:—The vesicle is formed from a branch or pinna through an arrest of individual development, by a shortening of the spiral axis, and by a transformation of the stomachs (individuals) into an ovigerous placenta, their dermato-skeletons (cells) uniting to form the protecting capsule or germen. Which metamorphosis is exactly comparable with that which occurs in the reproductive organs of flowering plants, in which the floral bud (normally a branch clothed with spirally arranged leaves,—respiratory individuals) is constituted through the contraction of the axis and the whorling of the appendages of that axis, and by their transformation into the several parts of the reproductive organism.

Thus are the great morphological laws, the existence of which Linnæus first, and Goethe afterwards, discovered in the vegetable kingdom, seen to be manifest precisely in the same manner in the animal kingdom.

Prof. E. Forbes proceeds to shew, that, if granted, these views must influence systematic zoophytology, leading to a dismemberment of the great genera *Sertularia* and *Plumularia* as they now stand. He urges a rearrangement of the *Zoophyta* generally; the transference of the *Bryozoa* to the mollusca, there to form a group parallel and equal to the compound *Tunicata*; and the distribution of the true polypes into four orders, equal in zoological value, and characterised mainly by the variations of the reproductive system—the first formed of the *Hydraida* and *Tabulariadae*, the second of the *Sertulariadae*, the third of the *Helianthoida*, and the fourth of the *Asteroida*.

The conclusion of Sir John Herschel's report was intended to come here, but we have postponed it in order to include the Sections of Saturday and Monday, and would direct the attention of agriculturists to those days' proceedings in Section B.

SATURDAY.

SECTION A.—(Mathematical and Physical Science.)

1. Forbes (Professor), continuation of the paper on glacier-ice.
2. Everest (Col.), memoir relating to the geodetical operations of Ind. and 3. Description of an instrument called a barometer-pump, for filling barometer-tubes in vacuo.
4. Thomson (W.), comparison of rain which fell at Florence Court with that which fell at Belfast, from July 6, 1843, to July 6, 1844.
5. Hopkins (T.), on the causes of the irregular movements of the barometer; and 6. On causes of diurnal oscillations of the barometer at York.
7. Byrne (Prof.) on an instrument for multiplying, dividing, and comparing lines, surfaces, and solids.

1. The discussion on glacier-ice, as we stated

in our last, occupied nearly three hours of Saturday, not concluding until 2 o'clock, leaving only one hour for seven papers on the list: the time of the sitting, however, was prolonged to 4 o'clock, and the above six of the communications were got through before a thin audience.

2. Colonel Everest's memoir contained the details of the geodetical operations conducting in India—first by Col. Lambton, then by Col. Everest, and now being continued by Captain Waugh. The opening of the memoir was only read, as the audience had dwindled to about six persons. The results of Col. Everest's labours will be published under the auspices of the East India Company.

3. The Colonel then proceeded to describe his barometer-pump, a single-acting air-pump to exhaust the air from the tube to be filled; the mercury, as the exhaustion proceeds, being supplied from a reservoir through a capillary tube, and heated and dried in its passage.

4. Mr. Thomson's paper was laid upon the table.

5, 6. Mr. Hopkins attributes the irregular movements of the barometer to the condensation of aqueous vapour; and to the same cause combined with the after-evaporation the diurnal oscillations of that instrument. He shewed that his views were supported by the observations at Plymouth, Madras, and elsewhere.

7. Professor Byrnes' communication was a method of adjusting the points of a new compass, having a vernier in the centre. The object of this instrument is described above.

SECTION B.—(Chemical Science.)

1. Lucas (W.) on the Yorkshire limestones.
2. Hunt (R.) on the electrolyte and the property of sulphate of iron in developing photographic images.
3. Warrington (R.), some remarks on guano.
4. Schunk (Dr.) on some colouring matters in lichens.

1. Mr. Lucas's paper was brought forward in compliance with a request from the local committee, and contained the results of chemical analyses, shewing the constituents of the principal limestones of the country, in regard, more particularly, to their application to agriculture. The varieties of Yorkshire are—the mountain limestone of Craven and the northern parts of the county; the magnesian limestone, both the upper and lower beds; the oolitic limestone of Malton, known as the lower oolite; and the chalk of the wolds of the East Riding. Into their properties and constitution, as detailed by Mr. Lucas, we need not enter; the proportions of carbonate of lime were the principal results given.

In the discussion on this paper some questions were put by agriculturists as to the effect of magnesian limestone upon growing crops, which has been observed to produce very various results in different places and on different occasions. After several suggestions had been made by chemists present, Dr. Playfair mentioned a fact which seemed to have the principal influence in producing these variable results—viz. that the iron existing in magnesian limestone was sometimes in the state of protoxide, and at other times of peroxide; the former is very injurious to the crop, the latter not so; it is therefore advisable either to use that limestone which contains iron in a state of peroxide, or to give it time, by the effect of the air, for the protoxide to be converted into peroxide. Silicate of potash is also sometimes injurious, sometimes beneficial, according to the nature of the plant, and its demand for silica. This should be attended to, according as circumstances may require.

Sir J. Johnson asked, if lime would supply sufficient alkaline matter for plants?

Dr. Playfair said, that there was usually in the soil abundance of potash as an insoluble silicate; the lime generally sets the potash at liberty; it is sometimes substituted for it, but not frequently.

Prof. Graham observed, that the various degrees of rapidity with which different limestones absorb carbonic acid had an important bearing upon this point.

2. After having called attention to the very remarkable processes discovered by Mr. Fox Talbot and Sir John Herschel, in which dormant photographic images were developed by gallic acid and other agents, Mr. Hunt proceeded to explain the peculiarities of the action of iron on the succinate of silver, as used in his recently published process, the *energiatype*.^{*} It was, however, found, that the sulphate of iron produced upon other salts of silver effects quite as beautiful as it did upon that particular salt. Indeed, on the iodide, bromide, acetate, and benzoate, which salts were found to be much more sensitive, the effect was far more pleasing and striking. On the iodide of silver, portraits could be taken in a remarkably short space of time. Mr. Hunt exhibited photographic pictures prepared upon upwards of twenty different varieties of photographic papers: the pictures being produced, or the dormant images brought out, by the agency of the sulphate of iron. Engravings can be thus copied almost instantaneously, and camera views obtained in one or two minutes on almost any preparation of silver.

The use of iron in photography was first introduced by Sir J. Herschel; the ammonio-citrate or tartarate of iron was the salt employed. Mr. Hunt stated, that all the dormant impressions on silver compounds were brought out instantaneously by the application of iron. Thus it would replace gallic acid in the calotype process. In the *energiatype* he had found a solution of benzoic better than succinic acid; when the latter is used, in order to give uniform results the quantity should be 5 grains of the acid to 1 oz. of water. By the use of fluoate of soda he had obtained and fixed images of the spectrum, in which each colour was impressed as in nature. Among the specimens exhibited in the Section-room by Mr. Hunt we did not see any of the spectrum so fixed; if this result be verified, it is of much importance.

In the discussion on Mr. Hunt's paper, Prof. Grove communicated experiments he had made with some success in obtaining a paper capable of giving positive photographs by one process, and avoiding the necessity of transfer, by which the imperfections of the paper are shewn. As light favours most chemical actions, Mr. Grove thought that a paper darkened by the sun (which darkening is supposed to result from the precipitation of silver) might be bleached by using a solvent which would not attack the silver in the dark, but would do so in the light. Among other acids tried, nitric acid succeeded best. Thus a darkened calotype paper is re-iodised by iodide of potassium, and then drawn over dilute nitric acid, 1 part acid to 2½ water, and is thus rapidly bleached by exposure to light, and perfectly fixed by washing in water and dipping in hyposulphite of soda, or bromide of potassium. If the acid be strong, say one-half water, the paper will be bleached in ten seconds by the sun, but then it partially bleaches in the dark.

Mr. Grove shewed some lithographs copied

by this process; but stated, that in the very few trials he had made with the camera the images had not been clear; that he had then tried the following method:—Let an ordinary calotype image or portrait be taken in the camera, and developed by gallic acid; then drawn over iodide of potassium and nitric acid, and exposed to full sunshine; while bleaching the dark parts, the light is redarkening the newly precipitated iodide in the lighter portions, and thus the negative picture is converted into a positive one. It is, however, faint, and gallic acid will not develop it; possibly some other solutions, such as those of iron, may; but Mr. Grove had not had time to try them. He had not intended bringing this forward, but had been led to it by the other communications on the subject. He thought it would be much more desirable that those engaged in this class of researches should direct their attention to obtaining a good positive process on paper, and not to multiplying the varieties of negative ones; and also to examining with more care than had hitherto been done the chemical changes which take place in the different steps of photographic processes.

3. Mr. Warrington's remarks referred chiefly to the hitherto incomplete analyses of guano.^{*} The proportions of uric acid, urate of ammonia, and of other ammoniacal salts, were given; but the quantity of nitrogen, upon which its fertilising properties mainly depend, was not estimated as correctly as was necessary for the agriculturist. The application of guano to chemical purposes exhibits a higher ratio of nitrogen than any analysis has yet shewn.

In the course of a desultory conversation on the relative merits of guanos, Professor Liebig, with great good-nature, answered several questions put by gentlemen connected with agriculture; he speaks English with a good accent and idiom, but occasionally wants words. His observations bore principally upon the presence of potash and soda in plants, and the part these salts play in the animal economy. He said, that no plant hitherto examined is without potash, but that plants have been found on the continent without a trace of soda; that corn and vegetables grown near the sea contained a greater proportion of soda, substituting it for

potash; so that soda may replace potash, and *vice versa*. Common salt will not always serve as the source of soda; nitrate of soda is sometimes decomposed by plants, but not common salt.

The question, however, which the agriculturists present seemed most desirous of being answered was, whether the greater quantity of uric acid in a sample of guano was proof of higher value? Prof. Liebig said, that no direct experiments as to the action of uric acid on soil have been made; and to suppose that Peruvian guano is more valuable because it contains more uric acid, is, therefore, mere assumption.

Numerous opinions and suggestions were elicited from Professors Daubeny and Playfair, Mr. Warrington, Sir J. Johnstone, Mr. Spence, &c. A few of them may be hints to practical men. The analysis of soils seems the safest principle, and should be the basis of all artificial or natural manuring.

By mixing charcoal and gypsum with guano, the burning effect of the latter during dry summers may be avoided; the charcoal would absorb moisture, and the gypsum fix ammonia.—Guano should be kept damp; if dry, it becomes fine and dusty, and much is lost.—By the use of guano a larger quantity of grain may be produced than the straw would support. Doubts seem to be entertained whether the silicates furnished by nature could be artificially supplied. The causticity of the silicate of potash had been a hindrance in the experiments tried. Farther trials were advised.—Silicate of soda might readily be obtained near the sea by the simultaneous calcination of common salt and sea-sand.

SECTION C.—(Geology and Physical Geography.)

1. Carpenter (Dr. W.) on the microscopic structure of shells, &c.

2. De la Beche (Sir H. T.) on the Ordnance geological maps, and on a section near Balth, in South Wales.

3. Griffiths (R.) on the silurian districts of Galway and Wexford.

1. Dr. Carpenter's report was illustrated by numerous finely coloured drawings, and entered with most elaborate minuteness into the structure of recent and fossil shells; a subject which we had the gratification to hear and see him demonstrate some months since, more satisfactorily than could be done in a large room, at a very limited private meeting in London,^{*} where we could examine every object with the microscope in our own hands. Through the aid afforded him by the Association, he had been enabled to make above a thousand examinations of shell-structure, from which he had drawn the general and particular deductions which he proceeded to lay before the meeting. Among other things, he pointed out the striae in fossil pinnæ, and also in some recent shells, which he considered to cross the prismatic cells, and indicate their formation by a series of flattened cells. From the different colours in other pinnæ, he held that their layer of cells was gradually formed, and not at one time. In Rudistes the cancellated cavities between the outer and inner shell had no counterpart in recent formations. His former views of the Terebratulæ had been confirmed by later experiments; and whilst their non-plicated and slightly-plicated species were characterised by the perforations he had noticed in the shells, they did not exist in the deeply plicated. Dr. Carpenter had so far gone to a considerable

^{*} The following account of this manure appeared in the *Literary Gazette* of the 8th Oct., 1835, No. 455, nearly one thousand weeks ago! "Some small islands at the entrance to the bay of Pisco are famous for the manure which they produce, and which is embarked and carried to different parts of the coast, and often into the interior on the backs of mules and llamas. The quantity of this manure is enormous, and its qualities are truly astonishing in the cultivation of maize. This valuable production appears to be the excrement of sea-birds, immense numbers of which frequent and breed on the islands; and the accumulation is doubtless owing to the total absence of rain. It is of a pale brown colour when dry, and easily reducible to powder; when fresh it has rather a reddish appearance; the surface stratum for a foot deep is whitish, and contains feathers, bones of birds, and shells of eggs. It is asserted, that the *huano* [now written *guano*, doubtless from the sound of the local name], the name by which this production is known, is certainly fossil earth; but the quality of the upper stratum, which, although at first white, gradually inclines to yellow, being inconspicuously the excrement of birds, and equal to the other, the subject seems to demand a stricter scrutiny. A species of birds frequenting these islands in great abundance is called *huanay*; hence the original name of the matter now used as manure. The bird is of black plumage, is as large as the seagull, and breeds during the whole year, with this peculiarity, that each nest, being only a hole in the *huano*, contains a fledged bird, an unfledged one, and one egg; whence it appears that there is a constant succession without the old birds undergoing the confinement of brooding their eggs. The Indians take many of the young birds, salt them, and consider them a great delicacy; however, they have a strong fishy taste."

^{*} At Mr. Lovell Reeve's, whose scientific devotedness, and especially to conchology, has made his collection one of the most interesting in the world.—*Ed. L. G.*

^{*} It is now proposed to distinguish all those images developed by the iron salts as *ferrotypes*.

extent in classification, which he hoped to conclude by next year; and it will be seen that a grant was made to him for that purpose. He invited every one to send him even fragments of shells, as they might materially assist his laborious investigation.

2. Sir H. De la Beche's splendid map exhibited the connexion of the silurian system in all the deposits near Ludlow, Brecon, Carmarthen, &c.; and gave rise to an animated discussion, in which Mr. Murchison and Professor Sedgwick took part.

3. Mr. Griffiths described at length the fossiliferous slate of Connemara, the great carboniferous limestone field of Ireland; the slate of Waterford, Wicklow, &c.; and the granite of the latter and Carlow. Mr. Griffiths shewed some Irish fossils which had been discovered in the course of his investigations.

SECTION D.—(Zoology and Botany.)

1. Schomburgk (Chevalier R. H.), description of *Alexandra imperatrix*; 2. Description of a new species of *Barbarea* *Alexandria*; 3. Description of a species of *Calyculophyllum*, from British Guiana; and 4. Description of *Ophiocaryon paradoxa*, or the snake-plant tree of Guiana.

5. Babinion (D. C.) on some species of plants new to the British flora.

6. Moore (O. A.), report on the flora of Yorkshire.

7. Allis (T.), notice of ferns cultivated in York.

8. Schomburgk (Chev. R. H.), description of *Lightia* *lemniscata*, a new genus of the family *Butteriacae*; and 9. On two new species of the family *Laurineae*, from the forests of Guiana.

1, 2, 3, 4, 8, 9. The Chev. Schomburgk's description of several trees he had found in Guiana during his late interesting expedition (a full account of which has already appeared in our columns), brought some curious botanical productions before the Section; his geographical and geological researches being reserved for the Royal Geographical Society of London, under whose auspices he travelled. The first, which he had named, in compliment to the Empress of Russia, *Alexandra imperatrix*, was a new, richly flowering papilionaceous tree, with its fruit in pods extending to 20 inches in length, and the tree itself growing to the height of above 90 feet, and above 60 to its branches.* Its great peculiarity was that the flower sprang from the hard wood of the trunk or thick branches. The second he had discovered on the Roraima mountain range, in a high stony situation; and he pointed out its difference from the plant described by Von Martius, as seen in 5° N. lat. and 62° to 84° long. The third tree was named *Stanleyanum*, in honour of our colonial secretary; and it was described, with its rose-coloured flowers, as a magnificent ornament to the forests where it grew, on the rivers Rupununi and Takato. Its bark and leaves are bitter, and it sheds its fruit at particular periods of the year. The kernel of the nut of the fourth tree (noticed in his former voyage) attracted the most attention. It is about the size of a chestnut; and the skin or membrane being peeled off, there is the perfect figure of a snake rolled up as in animal nature, the head, body, and tail, all clearly developed. The natives, as far as the chevalier knew, attached no particular legend to this singular appearance; but some of them seemed to look upon the nut as a remedy for snake-poison.

The other trees (8 and 9) were briefly described as new species of the *Butteriacae* and *Laurineae*. The timber of the latter is imported into this country, employed in ship-building in

* In answer to a question from the President, the Chev. said the largest tree he had measured was the *Morinda citrifolia*, which was 9 feet high before the branches shot off, and 14 feet in diameter; the bright, 120 feet.

the Clyde, and its decoction held to be good for fevers; and two new alkaloids have been obtained from it, one called *bibirine*, something like quinine, but insoluble, and consequently useless; the other bears the Acaawai nutmeg, which is much used in Guiana for dysenteric and other diseases of the intestines.

Dried specimens of some, and paintings of others, of these flora of Guiana, gave an added interest to their descriptions; and we were particularly struck with a transverse section of the stem of the *Aspidospermum*, which, instead of being circular, grows as in the annexed figure. The centre is the same, as in trees of ordinary growth; but the grain runs across, as if there were



no centre to circle round.

5. The new plants added to the British flora were of small importance—namely, *Alsine stricta*, from Teesdale; *Carduus setosus*, from Culross; and *Galium Vaillantii*, from Saffron Walden.

6. This report was drawn up at the request of the Yorkshire Philosophical Society; and added considerably to Mr. Baine's Flora, published four years ago. The number of Yorkshire plants (including flowering plants and ferns) was stated at 1117 species and 158 varieties; many of which latter were considered species by some botanists. Eighty-seven species and 81 varieties have been noticed by botanists as occurring in Yorkshire, which had not appeared in any general list. In the enumeration, these plants were classified thus:

| | | |
|----------|------|-----|
| Endogens | 806 | 102 |
| Aerogens | 292 | 35 |
| | 1117 | 158 |

The list was then cursorily gone through, and the most remarkable species noticed.

7. Contained a full description of ferns; of which a great variety were exhibited in a tent in the Museum Gardens.

SECTION E.—(Medical Science and Ethnology.)

Deferred.

SHERRIS F.—(Statistics.)

1. Pelkin (W.) on the statistics of the machine-wrought hosiery trade.

2. Thurman (J., M.D.) on the relative liability of the two sexes to insanity.

3. Sykes (Col.) on the statistics of the hospitals for the insane in Bengal.

4. Woolger (—) on the economy of savings' banks.

1. Mr. Pelkin's paper was a very interesting exposition of the machine-wrought hosiery trade as existing in England at the present time. The data appeared to be most sedulously and impartially collected, and displayed a miserable condition of the persons employed in this manufactory, their earnings being at an ebb too low to support human nature. From 60 to 66 hours in a week devoted to incessant labour did not supply the common necessities of life; and yet about 95,000 individuals were employed in frame-working. The excessive hire they had to pay for the frames, which were let to them by hosier capitalists, or middlemen, was the great cause of their distress. They could afford no instruction to their children, who were, indeed, obliged to join their juvenile toil to the efforts of their parents; who at forty years began to have their eye-sight affected, so as to be incapable of performing the same kind of work (i.e. the most profitable) which they had done up to that period. Mr. F. mentioned that the raw material cost 700,000*l.* a year, and the profit made upon it amounted to 2,000,000*l.*

Yet nothing could be attributed to over-supply of the market; for if only one pair of stockings and one pair of gloves per annum were allowed to every individual in the three kingdoms, it would consume more than the whole quantity made. Starvation and ragged apparel were the lot of all these unfortunate; the most important remedy for whose suffering, if it could be effected, would be some plan to enable them to have the use of their frames at a reasonable cost, instead of the merciless oppression of usury to which they are now exposed.

2. Dr. Thurman differed from Esquirol in his estimate of insanity in the two sexes; and instead of 98 females to 37 males, held that the proportion ought to be even: more of males to females. He dwelt on the fallacy of statistics as furnishing data for these calculations; and from a number of tables of lunatic asylums, concluded that there were above 13 per cent more of male than female lunacy. A curious conversation ensued as to the predisposition to insanity in the Society of Friends; and Mr. Tuke explained the grounds on which there was apparently, but not in reality, a semblance of its being larger than in other classes of society.

3 and 4 require no comment; and in conclusion of the day, Mr. Bracebridge read a paper on rural statistics, not in the list; in which he gave his reasons for thinking that poor-law unions might furnish valuable statistical facts for future legislation.

5. Secroff (G.) (Mechanics) plan a daily

1. Bridges (W.) on the collection of water for the supply of towns.

2. Birmingham (T.) on turning canals into railways.

3. Byrne (O.) on the Barge mill, or canalisation of rivers, by M. Thénard, engineer to the French government; and 5. On the granier mill, or moveable granary for preserving corn.

1. A description of Mr. Prosser's railway, as an improvement on the original wooden one, by hardening the fibres of the wood by a chemical process, and substituting a bevelled guide-wheel for the flange at the oblique angles before and behind the carriages. Mr. Payne's indurated wood is certainly calculated to promote its use in many cases where other materials have hitherto been employed.

The Rev. W. Taylor gave a *visa voce* account of an interesting apparatus invented by Mr. Littledale, a gentleman of the family of Judge Littledale, resident in York, and himself unfortunately blind; but, notwithstanding that calamity, wonderfully intelligent. The object was to enable blind persons to communicate with each other without the intervention of a third party. The instrument is simple, consisting of a case about a yard long, and three or four inches square; in which is fitted a slide, adapted to any alphabet or arbitrary character. At one end of the case is a hammer, which falls on the paper as the letters are successively brought up, and embosses them upon it, so that the blind reader may ascertain them by the touch. Various ingenious contrivances divide the words, move away and bring forward the letters, and, in short, complete the design for the purpose intended. The audience were much delighted with its exhibition and explanation.

3. Mr. Birmingham's paper was the only other production of the day which needs a short report. His plan is to construct railways in the beds of existing canals, levelling the bottoms of the latter to such an inclination that they would act as drains on the adjacent country, and save much of the great expense of agricultural draining. He enlarged upon his project as being calculated to produce great national benefits.

The varieties of the last working day of the week were, Lieut. Carte's rocket-experiments at Clifton in the afternoon; and Dr. Falconer's discourse in the evening (which) on the fossils of the Sewalik mountains in India.

We were much gratified with the former experiments, in which Lieut. Carte projected a rocket in a certain direction, so that it would cross over a stranded vessel and fall in the sea on the other side, having carried with it a rope which would thus be laid athwart the ship, and enable the crew immediately to establish a life-preserving communication with the shore where the projecting engine was fastened. The range, we should think, was about 200 yards; and the way in which the rope uncoiled, so as to accompany its fiery guide, was extremely beautiful. We are informed that many lives have been saved by this means, as well as by the life-buoys and belts of Lieut. Carte.

Dr. Falconer's lecture was admirably delivered, and gave great gratification to a very numerous assemblage. The almost unexampled exertions of the speaker, and those he incurred with his own enthusiasm, in a distant Indian station, was amply rewarded by his important discoveries, including the gigantic tortoise (of which the *Literary Gazette* rendered an account, No. 1433, when first brought into public notice by Dr. Falconer at the Royal Asiatic Society). He now went more at length into the description of the fossil masses of animal remains, of which a multitude of chests full as yet unpacked in the British Museum, and including a mixture of species such as had never yet been together. Most of them were now extinct in India; and of others there survived but very few analogies. Among the rest he mentioned the monkey; but the grand geological conclusion to be drawn from all is, that whilst the northern portions of the globe have been dislocated, convulsed, and lowered in temperature, the mighty plain of Hindostan has maintained, if not increased, its heat for ages, and consequently exhibits strata and fossil remains entirely different from those of Europe.

When at Clifton, we took a glance at the model-room, which was limited in its show, but still presented some fine examples of painted glass, a capital model of Lord Rosse's telescope, a handsome pyramid of carved wood by Mr. Walls, and a beautiful model of the Hull and Selby bridge, by a young engineer, Mr. Frost, a son of the well-known antiquary of Hull.

MONDAY.

SECTION A.—(Mathematics and Physics.)

1. Rosse (Earl of) on the construction of his great reflecting telescope.
2. Harris (R.) on meteorological observations at Plymouth.
3. Powell (Rev. B.) on certain points connected with elliptical polarisation.
4. Lee (Dr.), communications from Norway, from J. R. Grove, Esq., J. P. Cole, Esq., and J. H. Grove, Esq.
5. Rankin (Rev.) on the temperature of a deep well at Huggate, on the Wolds, taken at various depths; and 6. Singular thunder-storm on the Yorkshire Wolds.
7. Brewster (Sir D.) on the same subject.
8. Dent (H.) on a new azimuth steering and surveying compass; and 9. On the shape of the teeth of wheels in the clock of the Royal Exchange.
10. Goddard (—) on a new anemometer.

1. This Section was crowded on Monday at an early hour: the attraction was the announced account by Lord Rosse of his labours, unwearied and extended over a period of fifteen years, in the construction of his great reflecting telescope. The narrative, a most interesting one, and listened to with marked attention,

was delivered with great urbanity, and frequent proffering of farther explanation, if not understood by any one. The principal topics were—the difficulty of casting large masses of speculum metal; the attempts to surmount this difficulty, and ultimate success; the new method of grinding and polishing, invented by Lord Rosse; the results already obtained from his telescope with a speculum of 3 feet diameter; and the construction of the mounting of the gigantic telescope, the speculum of which, we need scarcely repeat, is 6 feet in diameter. A model of the building for, and mounting of, the latter was exhibited; and to this we shall confine our remarks, as the other matters have been already given to the public.

Sir James South described at the Royal Institution, in 1843, the mode adopted in casting the large speculum, and the appearances of the nebula observed by the 3-foot telescope contrasted with their forms seen with the Slough telescope (see *Lit. Gaz.* of May 27, 1843); and Lord Rosse himself, at Cork, gave an account of his polishing process. The mounting of the large telescope remains to be noticed, although verbal account will imperfectly convey the mechanical ingenuity displayed in the construction. The eye-hole of the tube is commanded to 40° of elevation by the observer, from a gallery raised by a winch up the sloping sides of two pieces of framework, resembling ladders, wide at the base and thence gradually tapering. Whilst in the gallery thus elevated, the observer can move himself from side to side in the direction it may be best to point the tube of the instrument; and here it may be mentioned, that a star or other object may be thus observed, and indeed throughout every degree of the elevation of the tube, for half an hour before it comes to, and for half an hour after it passes, the meridian. From 40° of altitude the observations are made from a fixed gallery, and again from another to near the zenith, and again from others in its course below the pole. These galleries run over the curved tops of two parallel walls, between which the telescope is, and across from the one to the other; the latter galleries movable, and to be drawn like slides beyond either wall, to admit the tube to traverse. The upper galleries are reached by spiral staircases; and the arrangement altogether is most admirable. The mechanical genius of the noble lord is, however, most marked in the leverage for the management of the instrument. Its weight, apparatus, tube, joint, speculum, &c., is about twelve tons; and the mechanical power to move this mass is the strength of one man. By a new system of counterpoising, the residual weight is reduced to only 3 cwt. It is obvious that an ordinary counterpoise necessary to raise the tube from the horizontal position would be too great after a certain elevation, and the tube would fly up; therefore its weight should diminish as the tube ascended. This is contrived most ingeniously and simply by the counterpoising weights being made to traverse on a curve; and thus any jerking is avoided, easy motion being indispensable. Into the principles of the curve and the method of calculating it, we need not here enter. Simplicity and efficiency characterise all the contrivances, and call forth universal approval. At the request of the Marquis of Northampton, Lord Rosse will probably publish the details of his failures and successes in the *Transactions of the Royal Society*. They will be valuable additions to the records of science.

2. Mr. Snow Harris's interesting discussion of the anemometrical observations at Plymouth

we reported in our last No.; and here ends our notice of this day's proceedings in Section A. The time for the General Committee-meeting had arrived, and the section-room was nearly deserted. Mr. Hodgkinson was, however, voted to the chair; and one of the secretaries, we understood, four or five persons only being present, delivered in the remaining papers, reading the titles only, or appending brief remarks, which is considered sufficient to entitle them to report. Such a course of proceeding is justifiable on the last day of meeting, and in full Section, when discussions throughout the week may have been fairly controlled, and no partiality shewn, the papers being taken in succession as they may have been placed on the lists; but this early burking of papers is scarcely fair to the authors who anticipate information from their discussion, and to the members that could not be present, who may wish to hear them or to speak as to their merits.

SECTION B.—(Chemistry.)

1. Greenough (—), report on the model of a glass furnace, with a description.
2. Bowring (—) on the theory and practice of amalgamation of silver.
3. Ibbetson (L. B.) on a method of electrotype, by which the process is much facilitated, and the deposition on minute objects easily accomplished.
4. Hunt (R.) on the influence of solar rays on chemical compounds, precipitation, and electro-chemical action.
5. Schunk (Dr.) on the action of nitric acid on naphtha.
6. Forchhammer (M.) on metamorphism.

1. The glass furnace, by the admission of heated air through numerous air-ducts, consumed its own smoke.

2. Mr. Bowring's paper detailed several new metallurgical processes. Mr. Taylor stated, that the loss of silver in metallurgical operations is in many cases 75 per cent of the real quantity contained in the ore, and that it was highly desirable that the ordinary processes should be amended.

Prof. Grove announced the successful repetition, by M. Gassiot, of his experiment, the production of electric tension with the plates of Volta without metallic contact (*Lit. Gaz.*, Jan. 21, 1843). In Prof. Grove's experiment a rim of paper or mica was interposed; but M. Gassiot had merely approximated the plates to 100th of an inch, by means of his micrometer electroscope, and, on separation, the gold leaf exhibited electrical tension.

Prof. Graham asked Mr. Grove if he retained his original opinion as to the development of electricity in this case being due to a radiation similar to that which takes place in the experiments of Möser.

Prof. Grove said he did, but would express no positive opinion as to the character of that radiation. All that was required by our electrical theories, to be consistent with general experience of the effects of force, was, that some change, either physical or chemical, should occur, and not that mere contact, without any consumption or change of the molecules of matter, should give rise to an active force.

3. The method proposed by Mr. Ibbetson to obviate the difficulty arising from want of uniformity in the ordinary black-lead coating for electrotypes is, to brush over the objects with the following preparation, and then immediately immerse them in the electrotyping solution:—a mixture of phosphorus dissolved in naphtha and black lead in fine powder.

4. Mr. Hunt then described several processes, in some of which light, and in others darkness, favoured chemical action. Sir J. Herschel had observed that chloride of platinum neu-

* They ought at once to be redeemed from this shameful obscurity, and arranged at the public expense.—Ed. L.G.

trahed by lime-water gave no precipitate in the dark, but did in light; Professor Draper, that chlorine, after exposure to light, would unite with hydrogen, but not before. The additions to these peculiar phenomena brought forward by Mr. Hunt were, manganeseate of potash, carbonate of iron, mixed acetate of silver and mercury, the precipitation of all which is facilitated by light; whilst bichromate of potash mixed with sulphate of copper, and nitrate of silver voltaically arranged with iodide of potassium, are reduced more readily in obscurity.

6. The above title of M. Forchhammer's paper affords but a slight idea of its valuable contents. It involved subjects affecting geological as well as chemical science. A portion of it was claimed for discussion in Section C, and was read there accordingly on Tuesday. The inquiry more immediately cognisable by chemical science was, What became, in the economy of nature, of the soluble salts washed into the sea by rain and rivers? What becomes of the sulphuric acid from gypsum, and the potash from other salts? The professor's paper contained nineteen analyses of different seaweeds, the general results of which gave 4 per cent of sulphuric acid, 2½ per cent of potash, and 1½ per cent of magnesia, with variable quantities of chlorine and phosphoric acid, and traces of silica. Thus the sulphuric acid, potash, and other soluble matter washed from the soil, are assimilated by sea-plants, and literally and identically brought back to it when seaweed is used as manure. Prof. Forchhammer farther finds, that sea-weed in a certain state undergoes a fermentation, by which the sulphates are changed into phosphorets, and phosphoretted hydrogen evolved; and that, by seaweed putrefying in contact with ferruginous clay, iron pyrites and an insoluble compound of potash and clay are formed in nature; and he has obtained them artificially, by putting the ingredients together.

Many other curious chemical and geological facts were given in this paper, which was read by Mr. Murchison, and excited great interest. Dr. Daubeny observed that he was glad to have heard read a paper from a professor at Copenhagen, and which he hoped would elicit remarks from a professor of Giessen, at a meeting at York. He directed attention to the remarkable fact of the quantity of potash in the sea-plant compared with the proportion in seawater.

Prof. Liebig said, that the paper was exceedingly instructive as to the physiology of the plants, the necessity of potash for their existence, and their power of selecting and absorbing it from water. In sea-water there is 1-40th of soda where there is 1-1000th part of potash, and yet the plant takes up the latter in preference to the former. The paper also, he said, possessed great interest for agriculturists: it exhibited the value of sea-weed as manure for lands requiring alkalis.

Mr. Lyell addressed the Section on some of the geological bearings of the communication. Amongst other things, he observed, that the organic remains proper to a given locality are not those which are found in the greatest quantities in a fossil state, but those that are foreign and washed in.

SECTION C.—(Geology and Physical Geography.)

1. Forbes (Professor E.), portion of the report of the dredging committee.

2. Charlesworth (E.) on a large specimen of *Plesiosaurus macrocephalus*; and 3. On the discovery (by Mr. S. Wood) of the remains of an alligator associated with extinct mammalia in Hordwell Cliff.

4. Loven (Prof., of Stockholm) on the bathometrical

distribution of submarine life on the northern shores of Scandinavia.

5. Agassiz (Prof.) on the fossil fishes of the London clay.

6. Owen (Prof. R.) on gigantic extinct mammalia in Australia.

7. Strickland (H. E.) on the state of our knowledge of fossil ornithology; and 8. On an anomalous structure in the paddle of a species of *Ichthyosaurus*.

1, 4. See ensuing report of Section D; and with regard to paper 4, we have only to mention that it acknowledged and fully corroborated all Prof. Forbes' previous statements and opinions, from the period they were first promulgated at Edinburgh, eight years ago, to the present date. Prof. Loven is a great authority on this subject; and his general deductions were, that the shallowest parts of the sea were most replete with submarine life, and that the lower temperature found all over the globe as you descend in depths (even to the freezing-point), was inimical to animal existence. Prof. E. Forbes expressed how gratifying this communication was to him, especially as the learned author's works were well known in the French and German languages.

Prof. Sedgwick inquired into the propriety of applying the zone of temperature to the geology of the earth as well as the water; and Prof. Forbes observed, that the association of species in the pleiocene formation would lead to very great discussion.

2, 3. Mr. Charlesworth exhibited drawings and specimens of teeth and bones of the animals to which his explanations referred. The *Plesiosaurus macrocephalus** was an immense and perfect fossil (to be seen in the Museum), found in the lower strata of alum-shale at Ketleness Cliff, near Whitby, above 100 feet below the surface, where the stratum is wrought for the extraction of alum, and above which is a sandstone-layer of 50 or 60 feet. Mr. C. pointed out the anatomical differences between this huge creature and that which was the subject of Prof. Owen's memoir in the Transactions of the Geological Society. The head of the former was much larger; there was some difference in the comparative length of the femur and humerus; the caudal vertebra presented a dissimilar aspect, and he reckoned not less than 90 in the entire spinal column.

Prof. Owen agreed that this fossil belonged to an unpublished species of which he had seen vertebrae in the British Museum, and to which, in his *ms. notes*, he had given the name of *Brachyspondalus*.

Mr. Charlesworth observed, that as these notes were also unpublished he could not be aware of the fact. He next brought forward the Hordwell remains, and especially what he considered to be those of the first alligator ever discovered in a fossil state amongst our extinct genera. He gave his reasons for thinking it was not a crocodile, and proceeded to state that it was found associated with a fish of the *lepidosteus* genus, now only known to us in the rivers of North America, and belonging to the secondary formation, and several new mammiferous animals, including a small pachyderm, about the size of a hedgehog, closely resembling *hyracotherium*; and which Mr. Wood proposed to call *Microcharus*. The teeth of a seal, and parts of one or more insectivorous animals were also produced as new, and deserving of future investigation.

A conversation ensued, in which Prof. Owen doubted the distinctions pointed out between

* We heard it rumoured that this beautiful fossil would become the subject of litigation as to ownership, whether it belonged to the proprietor or renter of the alum-shale works.—Ed. L. G.

the supposed alligator and crocodile; and made some excellent remarks on the comparative anatomy of the other specimens in relation to ascertained data. The teeth might belong to a shrew, and the bones might belong to a hippopotamus.

5. Prof. Agassiz' paper, translated and condensed from the original French, within a very limited time, by the secretary, Prof. Ansted, was read by that gentleman. We have not, in this *Gazette*, extended our notes of this communication on the fossils in the London Clay; reserving them with the intention to enlarge on a subject of peculiar interest to our readers in the metropolis, as well as to geologists in general.

6. Prof. Owen's paper resumed the subject of a gigantic marsupial animal, first spoken of in the Appendix to Mitchell's work on Australia in 1838. Since then other remains had been found on Darling Downs, the Wellington Valley, and other remote localities; the whole affording perfect proof of the former existence in that country of a quadruped as large as the mastodon, or elephant, and provided, like the kangaroo, with a pouch. Together with this fossil, was found that of the true mastodon, allied to the same animal so widely distributed over Europe, Asia, and North and South America. Its teeth were unlike those of any marsupial living; whilst its contemporary was organised exactly as were all the family, except (we think) the rodentia. The teeth, the angle of the jaw, though as large as the rhinoceros, were precisely similar to the wombat. There were no bones in Europe, Asia, or America, which resembled these of a prodigious herbivorous animal peculiar to that division of the world. The professor further mentioned other bones and antlers discovered in Australian strata.

Dr. Falconer observed on the existence of a giant marsupial in the olden times of the world; the same as there were giant creatures of other kinds, all of which had vanished from the face of the earth. Reverting to Mr. Charlesworth's paper, he also doubted his alligator, and held it might be an animal between the alligator and crocodile, known on the American continent.

An interesting and sharp discussion ensued, in which the non-existence of armadillos, sloths, &c., so common in South America, or of the marsupials of Australia, in any portion of the old world, was commented upon. Of the ancient gigantic types, it was stated that the only resemblances now remaining were small animals, reduced in size, but analogous in formation.

[A curious speculation might be raised on these grounds. Why, if elephants have dwindled into pigs—saurians into dragon-flies, if not microscopic insects—and mastodons into mice,—might we not maintain the hypothesis, that the race of human giants had degenerated into the pigmies, who are proud of the stature of six feet, as raising them above the vast majority of their kind?—Ed. L. G.]

7, 8. See first paper in next Section. The paddles of the *ichthyosaurus* were from lias in Warwickshire; and the peculiarity was, that, instead of two, the forearm consisted of three bones.

SECTION D.—(Zoology and Botany.)

1. Strickland (H. E.) on the recent progress and the present state of ornithology.

2. Gould (J.), monograph of the Odontophorinae, or partridges of America.

3. Allis (T.) on the birds of Yorkshire.

4. Loven (Prof., of Stockholm) on the bathometrical distribution of marine animals in the Scandinavian seas. Communicated by Mr. Murchison.

5. Allman (Prof.) on the anatomy of *Actæon viridis*;

6. On a new genus of Helianthoid zoophytes; and
7. On the structure of the Lucernaria.
8. Forbes (Prof. E.) on animals new to British fauna, discovered in 1844 by R. M'Andrew, Esq.

1. Mr. H. E. Strickland read the report, which had been called for by the Association, on the recent progress and present state of ornithology, and partly communicated in the morning to Section C. He reviewed in detail all the various works and memoirs on the subject which have been published of late years, and which were classed under the several heads of general systematic works, works on the ornithology of particular regions, monographs, and miscellaneous descriptions of species. He then proceeded to the subject of fossil ornithology, which, though far less extensive than many other departments of paleontology, yet presents many remarkable facts, such as the occurrence of footprints, unquestionably belonging to birds, in the new red sandstone of the United States, and the evidences of gigantic extinct birds procured by Owen from New Zealand, by Lund from Brazil, and by Falconer from India. The author also stated that he had procured evidence that the islands of Mauritius, Bourbon, and Rodriguez, had each, as late as the seventeenth century, their peculiar species of struthious bird, of which the dodo is the best-known example. The report then proceeds to notice the progress of pictorial art as applied to the illustration of ornithology; and, after enumerating the chief ornithological museums in Britain and abroad, concludes with calling attention to the desiderata of the science,—such as, the want of information on the habits and anatomy of exotic birds—our ignorance of the ornithology of many extensive regions—the imperfect arrangement of large museums—and various other points in which this branch of zoology might be further advanced.

2. Described the plumage, habits, food, &c. of the partridges of Mexico and North America; and was illustrated by beautiful drawings, such as Mr. Gould always produces.

3. Mr. Allis entered at large into the philosophy of the organisation of raptorial and other birds; shewing its fitness for their various pursuits and modes of life. He enumerated the species he had collected in the ridings of Yorkshire; a catalogue rather for the press than *vis voce* repetition.

5, 6, 7. Prof. Allman first on the anatomy of *Aetoon viridis*; in which he controverted the statements of M. De Quatrefages, and insisted upon the existence of a structure totally at variance with that detailed in the memoir of the French zoologist. He was opposed to the establishment of the order *Phleboterata*; maintaining that the phleboteric system of M. De Quatrefages was nothing more than a liver; and demonstrating in the subject of the present communication a high type of organisation, in contradiction to the degraded condition of structure asserted by M. De Quatrefages, and assumed by him as characteristic of his new order. The same gentleman brought before the notice of the Section a new genus of Helianthoid zoophytes, discovered by him on the south coast of Ireland. He entered into the details of its structure, and demonstrated the existence of certain angular bodies imbedded in the tentacula, and analogous to the darts described by Corda in the arms of *Hydra fusca*. He next detailed certain undescribed peculiarities of structure in the *Lucernaria*; and brought before the notice of the Section the existence in these zoophytes of stinging organs analogous to those of the Helianthoid zoophyte previously described and to the darts of *Hydra fusca*.

8. Prof. Forbes said, that during the past year the most successful researches with the dredge in the British seas have been conducted by Mr. M'Andrew. He has been especially fortunate on the west coast of Scotland. Among his discoveries are:—1. A most remarkable new species of sea-pen zoophyte, the *Vergularia quadrangularis*, 2 feet 6 inches in length, and having an acutely quadrangular skeleton. It is the largest species of its genus hitherto discovered. 2. The *Pleuratoma teres*, first discovered by Professor Forbes on the coast of Asia Minor, and now found in the Scottish seas. The British specimen is much larger than those from the *Ægean*. 3. A new *Eulima*, *E. Mac Andrei*, a small but beautiful species, distinguished by its very narrow flat whorls and its square mouth. 4. A beautiful *Emarginula*, the *E. crassa* of the mineral conchology, long known as a fossil from the crag and pleistocene, now first found (by Mr. Jeffreys and Mr. Alder, as well as by Mr. M'Andrew) in a living state.

SECTION F.—(Statistics.)

1. M'Conochie (Capt.) on the statistics of the criminal population of Norfolk Island.
2. Sykes (Col.) on the statistics of Frankfort-on-the-Maine.
3. Clendinning (Dr.) on statistics of health, deduced from records of the infirmary of Marylebone.

The general length of the statistical papers, and their necessary minutiae of detail, their diagrams and tables, remove them almost entirely from our jurisdiction. We can only point to generalities and to facts which deserve public and legislative attention, in devising measures to remedy evils which afflict any classes of the community.

1. The gist of Capt. M'Conochie's elaborate memoir was to impress merciful consideration and sympathy instead of severity in the treatment of transported criminals.

2. Col. Sykes' history of Frankfort was full of interest, with its 4,000 houses and 66,000 inhabitants, and latterly related to numerous grievances to which they are exposed in consequence of civil and fiscal restraints. *Inter alia*, a butcher may not sell above a certain quantity of meat; persons in service have to register themselves as such to the police, and give notice on leaving their employ; a stranger seeking work must quit the city in three days if unsuccessful; no person can marry until he satisfies the authorities that he possesses sufficient capital, the result of which is that one in every six children born is illegitimate. State lotteries prevail, some of them displaying more ingenuity than honesty. The indigent poor are looked after in their own dwellings, but poor-houses are provided for the houseless workman, citizen, or the sojourner.

SECTION G.—(Mechanics.)

1. Gray (J.) on the causes of the great Versailles accident.
2. Scoresby (Dr.) on steam navigation in America.
3. Whitworth (—) on a machine for determining of gauges to be worked from, instead of the 2-foot rule.
4. Byrne (O.) on the Barege mobile, and on the Grenier mobile.
5. Russell (J. S.) on the resistance of railway-trains.
6. Bodmer (J. G.) on the new double-piston steam-engine.
7. Fairbairn (W.) on the economy of the expansive action of steam in steam-engines.

The popular attraction of the morning being the description of his telescope by the Earl of Rosse, in Section A, the Mechanical Section did not meet till 1 o'clock.

1. Mr. Scott Russell read Mr. Gray's paper, in which he attributed the melancholy Versailles accident to the fire of one of the engines being scattered over the carriages behind, and igniting their combustible matter, and after-

wards to the breaking of one of the axles. On the subject of axles themselves, he held that, if deficient in dimensions, a gradual and inevitable dissolution of particles must result; but beyond this, that there was no ground for believing it necessary for changing its quality, or becoming crystallised by forces within the range of its permanent cohesive force and elasticity.

2. Dr. Scoresby, after alluding to steam navigation as having an important bearing upon the national prosperity and the development and employment of the national resources of America, equal to that of the steam-engine upon the national wealth and commercial greatness of our own country, proceeded to notice the extent of navigable waters in North America, which, he said, including the coast-lines and the waters of the British possession, might be roughly estimated at 25,000 to 30,000 miles. In enumerating the various waters, and particularly the Mississippi, he observed that none but steam-boats had any or little chance of making way, from the rapidity of the current, the average of which was four miles an hour. With regard to the speed, he observed that it was much beyond that of our steam-boats, from the circumstance of the Americans adopting the high-pressure principle, and that, too, to an extent at which the generality of Englishmen would be loath to trust themselves. Whilst our boats were worked at a pressure of 50lb. to the square inch, they thought nothing of 100lb. or 150lb. pressure; and, in addition to loading the valve, the engineers had been known to sit upon it in order to gain increased speed. The most extraordinary performance of American steamers was effected by the "J. M. White" in the summer of this year. She made her way against an average current of from 3 to 4 miles an hour, from New Orleans to St. Lewes, a distance of 1200 miles, in 3 days and 23 hours, remaining a day and a half at St. Lewes, unloading and loading, and reached New Orleans again, having performed a distance of 2300 to 2400 miles in little more than 9 days. The average speed, taking certain advantages and disadvantages into consideration, would be 16 miles, or perhaps near 14 knots per hour. With regard to the dangerous character of the western boats (improved now, but far from safe), he observed, that in 1834 an American paper stated that 1500 persons had lost their lives in American steam-boats, by the bursting of boilers, during three years, and that in two years, from 1832 to 1834, 67 steam-boats were lost or abandoned in the western waters.

3. Mr. Whitworth exhibited a machine for ascertaining the diameter of metallic cylinders or gauges, with an extreme degree of accuracy, amounting to the ten-thousandth part of an inch. The gauges or cylinders are to be used as standards of size, where practicable, instead of the two-foot rule. The truth of the machine depends upon the perfect accuracy of the screw. The object to be measured is passed by the hand between two surfaces, which are actuated by the screw; and a difference, indicated by one division of a wheel on the screw, amounting to the ten-thousandth part of an inch, is distinctly sensible to the hand. This occasioned considerable surprise, that a difference in size so extremely minute should (by touch) be distinguished. The thickness of a hair was taken, and found to be 0019 decimal parts of an inch; and the thickness of a piece of tissue-paper 0017 decimal parts of an inch.

4. Prof. Byrne explained the Barege mobile, or canalisation of rivers, and the Grenier mobile, or movable granary for preserving corn.

This machine consists of a cylinder, divided into compartments, which will hold 800 quarters of corn. It is made of zinc or galvanised iron, and turns round like a barrel, so that the grain is thus turned over by one man daily. The advantages are, that the corn gets gradually dried, may be preserved for a longer period, bad corn is improved, grain generally comes out heavier than when it went in, and it is not bruised and wasted by being turned over with the shovel.

Of the general committee meeting, which assembled this day at 3 o'clock, we have already stated the result, viz. the appointment of the next year's meeting at Cambridge; with every prospect of its being not only socially delightful, but highly advantageous to science, and especially to the progress of magnetic and meteorological information; the hitherto hidden principles of which, we may say without a strain, involve the soul of the world of inorganic matter, and all the phenomena around him which are most interesting to man. But as the prospect of a future meeting at the sister University was, for the first time, opened on this occasion, we took an accurate note of Dr. Daubeny's observations, and insert them as important to the future views of the Association. The learned doctor felt persuaded that if it had not been in a manner understood that the sister University would be selected for the next place of meeting, a formal invitation would this year have been sent to the Association from Oxford. Cambridge, however, had got the start on this occasion, as Oxford had on the last; so that while his own *alma mater* might look back with pride to the share she had taken in fostering this Association in its infant state, Cambridge would have the satisfaction of evincing to the world that, after fourteen years' trial, the conduct and objects of the body still continued to meet with favour from the members of an English University. It was but just, however, to Oxford for him to state, that before it was known what would be the decision of Cambridge as to the question of receiving the Association, the committee of the Ashmolean Society of Oxford had passed an unanimous resolution to the effect that it was their wish that the Association should fix upon Oxford, at an early period, as their place of meeting; and, moreover, that the Board of Heads of Houses had intimated their assent to the appropriation of the public rooms at the disposal of the University to the use of the members, in the event of such a meeting taking place. He felt himself, therefore, authorised at least to assure the meeting, that those members of the University who interest themselves in the progress of physical science would welcome with pleasure the return of the British Association to Oxford, and that the authorities were favourable to the meeting taking place. Nor could it be doubted but that a literary body, such as the University of Oxford, would receive with sympathy and kindness an assemblage of individuals collected with higher and less selfish objects than those which occupy the mass of mankind, being intent only on the prosecution of physical truth. He was sorry that it had again devolved upon a lay professor to speak in the name of the University; but three of his colleagues, on whose presence at York he had depended, and who as clergymen might have spoken on this occasion with more authority, were all absent on day from unavoidable causes. This address was received with much approbation.

Prof. Sedgwick, in his warm manner, spoke of Prof. Whewell's manly and straightforward

manner in retracing his opposition to the meeting at Cambridge. He would now put his shoulder to the wheel, and had already invited the president elect, Sir J. Herschel, to be his guest. He hoped by next June that fine building, the Fitzwilliam Gallery, would be so far finished as to offer them some accommodation; but, at all events, they would be received as friends and brothers.

Mr. Hopkins declared the anxiety of the Philosophical Society to do every thing in their power to promote the prosperous issue of the meeting; the same was done on the part of the town-council; and Mr. Babington stated similar sentiments from the Mechanics' Institute.

Sir John Boileau, as a resident landowner, repeated the wishes, as he had been able to collect them, of Norwich and Norfolk for a meeting as early as suited the convenience of the Association. Adjourned.

At night there was a ball, for which tickets were issued at three half-crowns a head. It was a dull affair, except perhaps to the younger lady-visitors and fair damsels of York, who certainly got up some quadrilles, waltzes, and polkas, for "the advancement of flirtation as a science," with considerable vigour and effect. The philosophers, whose distinguishing characteristic it is to wear no straps on their trows, did not shine much in the *mélée*. In short, we have never seen any thing more out of keeping with the objects of the Association; and it seemed to be got up merely to amuse the juvenile idlers, and extract a few more pounds, shillings, and pence, from the pouches of the poor members, who, for this night only, paid 7s. 6d. for a dance or hold the candle, in addition to 7s. 6d. or so for their beds.

FINE ARTS.

Landscape by Velasquez.—We were invited to see a painting so designated at the Gallery in Pall Mall, and had much pleasure in the view. It is a fine and effective picture. We are not sufficiently acquainted with the landscape productions of this great master to authenticate the specimen by any opinion of our own; but it certainly justifies criticisms from able connoisseurs which we have read concerning them. There is much more of *impasto* than in his portraits, and more also of minute finish in details. The subject is the rest of a peasant-party, with horses, dogs, &c., near a picturesque ruin, and in a scene of diversified landscape features. The general tone is deep, and the *coup d'œil* impressive; nor is our satisfaction lessened when we come to examine the component parts. Some brilliant and masterly touches are visible throughout; and taken altogether it is a picture richly deserving the attention of the lovers of high achievements in art.

SKETCHES OF SOCIETY.

BATHS AND LAUNDRIES.—We attended the interesting meeting at the Mansion-House on Wednesday, when the project for supplying the poorer and labouring classes in the metropolis with means for performing their own ablutions, and washing their clothes, at a very trifling cost, was brought forward, and eloquently and feelingly supported by the Bishop of London, Mr. Byng, Archdeacon Wilberforce, Lord D. Stuart, Archdeacon Hall, Sir G. Larpent, Mr. Colquhoun, M.P., Mr. Wire, Mr. D. Salmon, Mr. Alderman Johnson, the Rev. Dr. Russell, Mr. G. F. Young, Mr. Cotton, governor of the Bank of England

(the originator and chief supporter of the design), Mr. Moon, and others. Of the beneficial nature of the plan not a doubt can be entertained; and its practicability has been already tested, as far as the difference of size and population admit, by an establishment of the same kind at Liverpool. That many will avail themselves of the facilities which may be thus afforded, we are quite convinced; and though at first it may be difficult to extend changes of habit, there is every probability that the example of the clean, comfortable, and healthy, will work its way with the majority of "the great unwashed." Good baths, all separate, are to be provided at two pence for the individual; and how would a labouring man enjoy this on a Saturday night, refreshing and fitting him for a place of worship on the ensuing day, and for the renewal of his weekly toil on the following Monday. And truly was it observed by more than one of the speakers, that habitual filth was almost identified with habitual degradation and vicious habits. We have noticed and commented on this distinct fact when writing of the "beastly cabins of the lowest Irish in their own country, and in their habitations when transported hither; and of similar abodes of wretchedness in most of our large and populous manufacturing towns." Glad are we that attention is at length keenly roused to the importance of this subject, affecting not only the capital, but the nation throughout. When men and women are content with rags and dirt, all self-respect is gradually lost; and they are ready to fall into every species of immorality, leading to crime. The opportunity given to clear themselves from so debasing a condition, and its consequent course of life, must be earnestly desired by all wise governments and good citizens. We say little of drawing the bonds of attachment closer between the rich and poor, though it is much to evince to the latter a genuine and practical anxiety to promote their welfare. This spirit is, thank Heaven, abroad and gaining ground; and we trust that in every division of society, in agriculture, in manufactures, and all the great interests of produce and commerce, it will be enlarged far beyond our as yet very imperfect present, and bear such fruits as measures of justice and benevolence, administered with kindness and consideration, are sure to bear. The allotment system extending over the land, the making of parks for the recreation of mechanics at Manchester, Leeds, &c., are other auspicious signs.

With regard to the washing branch of this new proposal, we understood that, on payment of one penny, hot water, tubs, &c. were to be found, and a steam-apparatus for expeditious drying, so that the mother of a family might not be long detained from them in the performance of this necessary duty.

The inconvenience and ill effects of washing at home, where but a single room must suffice for many persons, young or old, or in sickness, would, in these instances, be avoided; and no doubt a boon of signal benefit be conferred on the poor.

We hope the project is as capable of being put in practice as its usefulness is of demonstration; and seeing so many persons of influence, wealth, and consequence among its patrons, we can hardly doubt of its success. A subscription was entered into, in which we observed many donors of ten and five guineas.

* To be allowed to take a young child or two with her, for protection from danger, and give them a rise too; perhaps, whilst the clothes were drying, would, in our opinion, be a considerable improvement on the scheme.

and Mr. Byng illustrating his characteristic speech with a gift of one hundred pounds.*

SOCIETY OF PRACTICAL SCIENCE.

A. SOCIETY, "for the advancement of science and establishment of universal peace" is about to be instituted in the neighbourhood of Fulham, under the auspices of the *soi-disant* Duke of Normandy, the discoverer, as it appears, of explosive compounds equally destructive with the far-famed Warner preparations, as safely to be managed, and as easily to be projected to the long range of three miles and a half. His Royal Highness is also the inventor of a cannon, on the principle of *non-recoil*, to be loaded and fired with great rapidity, with admirable precision, and without the slightest danger to those working it. And "the society can state with confidence, that they will undertake to provide Her Majesty's navy with guns upon the same safe principle." This would be a consummation doubtless most devoutly to be wished, and a lucrative contract it would possibly turn out. But pending this, the society, the Duke and Co.—committee of gentlemen, we mean, whose names are to be duly published when the arrangements are completed—contemplate a "private military school of a new and noble science of warfare," and a practical-science department, in which gentlemen of property and science (useful union!) will find ample room and convenience to carry out their ideas, and men of genius (not gentlemen of genius), without property, will meet with the assistance and protection they need, should their inventions prove available to public utility—*nidifict*, marketable. This interpretation of the latter phrase may be somewhat illiberal, but it is called forth by the present mistiness of the ends the society have in view. "Public utility" and philanthropy, however, seem the only thought of the projectors of the rockets and of the school of a new and noble science of warfare, which, if carried out, they say, must cause a considerable revolution in our present system, and produce an immense saving in our national expenditure. The philanthropy of warfare consists in the power to say, "Be still, redress your grievance in some more laudable manner; but to war you shall not—the power is in my hands; and if war be your determination, the destruction of your fleet and army is certain!" And one object of the society is, to empower Her Majesty so to dictate, by placing at her command (for a consideration, perhaps, the support of the Duke's claims to the crown of France) such a tremendous machinery of warfare as to enable Her Majesty to maintain universal peace. While these grand views are being carried out, and previous to the opening of the grounds of Mulgrave House, Fulham, to the public generally in the ensuing spring, the public generally we presume, will be admitted for five shillings each to a series of experiments in warfare. The first of these five-shilling exhibitions took place on Tuesday last. The weather was somewhat unfavourable, and the

damp destroyed or damaged the destructives; for two or three of the eight experiments proposed were postponed. Still there were lots of rockets without sticks, self-exploding rockets, bomb-shells, discharges of the non-recoil cannon, military music, refreshments, &c., and a goodly company. We shall reserve our remarks on the experiments for a future more favourable occasion, contenting ourselves now with the bare announcement of the grand undertaking, and directing attention to the non-recoil cannon, which was jealously scrutinised, and appeared to give general satisfaction. It was a beautiful brass model, working in a circle, and fitted with a telescope—for aim, a most improved eye-piece. The little cannon was discharged also from the hands of the inventor and of others, and not the slightest recoil was sensible. In the ordinary cannon of the same size, the shock of recoil would have been any thing but pleasant.

THE DRAMA.

THE past week has been prolific of successful novelties, drawn from what seems to have become the source of English dramatic literature,—the Parisian stage. Here we have at three theatres *Don Cesar de Bazan*, in which M. Frederic Lemaître has created a furor at the Porte St. Martin, and it is "underlined" in the bills of half a dozen more. We have also Auber's new opera of the *Syren* at the Princess's and Drury Lane; and it appears to us that we shall soon be entirely dependent on our neighbours on the other side of the channel for any supply of dramatic amusement. Is this the result of want of talent or encouragement amongst us, or is it only the effect of idleness? We would fain hope the latter; but unless we see some really original English play, shortly, we shall begin to despair.

Drury Lane.—The *Syren*, with increased orchestra, increased chorus, and every thing that could possibly be done for it in scenery, dresses, decorations, &c. was produced here on Thursday; and we may refer to our notice of its prior performance at the Princess's for all that we need say of the work as a musical composition. There is a sameness running through the whole, which becomes quite wearisome before the end of the third act; and although there are fine melodies spread about, they are too few and far between to save the opera from being very tedious. The *libretto*, if such it ought to be called, is much superior to that at the smaller theatre, while the singers are nearly on a par; but the *Syren* can never be considered a first-rate opera, however well the music may be sung, or the piece put upon the stage.

Haymarket.—Mr. Charles Mathews has taken the theme of the French *Don Cesar de Bazan* for the construction of a two-act drama, entitled *A Match for a King*. The "points" of the original are retained here as elsewhere, but others have been added, and a totally different view is taken of the principal parts. Thus, the ballad-singer has been made a saucy and shrewd flower-girl, and, as a natural character, loses nothing by the change. It was capably played by Miss Julia Bennett, as was the noble but spendthrift Spaniard by Mr. Mathews. Messrs. Stuart, Holl, and Strickland sustain the king, the minister, and the fool, Miss Lee the page, and Mrs. W. Clifford the old marchioness; and all did their best, though the interest is absorbed in the more attractive features of the hero and heroine. The piece altogether is a very fair rendering of *Don Cesar de Bazan*, and has been produced with every attention to

scenery and costume, and was perfectly successful on Monday night. With considerable curtailment it will be much more effective; but we must not find fault with a performance that gave such evident satisfaction to the audience, who received it favourably from beginning to end during nearly the three hours it lasted, with unnecessary delays between the acts.

Princess's.—On Monday, Auber's last opera, the *Syren*, was performed for the first time in England, and met with a reception quite equal to its deserts; for it is exceedingly monotonous in its general composition, and there is little to interest in the dramatic portion of the story, which has been prepared for the English boards in a very inefficient and slovenly manner. Mlle. Nau, of whose powers as a vocalist we have already given our opinion, played the *Syren*, and sang the music throughout with perfect correctness and skill, displaying a rare ability as a singer, and confirming the favourable impression she has created in this country. Mr. Allen warbled delightfully as the chief of the smugglers, and met with well-deserved applause, and more than one encore, in some charming bits of melody. Mr. C. Horn, jun., a sweet tenor, was also successful in the music of his part, which he gave with taste and feeling. Mr. Leffler was labouring under severe cold, so it would be unfair to speak unkindly of his exertions in a part which is only important as regards the concerted pieces; he acted, however, with a good deal of spirit. We may also make favourable mention of the able manner in which the inferior characters were sustained by Mlle. Féron and Messrs. P. Corri and Walton. The scenery is very effective in its arrangement, especially the "smuggler's retreat" in the second act, the praise for which, however, is entirely due to the machinist—for as regards the painting, it would be difficult to produce a collection of greater daubs. This is much to be regretted, as artists in scene-painting are not only numerous, but have of late years improved greatly in their art, and profited by the fine examples they have had before them in Stanfield, the Marshalls, the Grieves, Telbin, and others. In a theatre so beautifully ornamented in the audience-portion, and so well appointed in other respects, as the Princess's, this glaring defect, so general in all its scenery, ought to be remedied.

Adelphi.—*Cesar de Bazan*, translated—and we should think almost literally—by Mr. Bourciquault, was likewise produced here on Monday, with Webster for the *Don*, and Celeste for the *Donna*. The gentleman gave a more rollicking version of the part than quite agrees with our ideas of a Spanish hidalgo; but it was nevertheless a striking performance, and elicited continued bursts of applause. The character itself, with its gallant devil-may-careishness, is sure to be a "taking" one with the audience; and Mr. Webster carried his entirely with him by his dashing style of acting. Celeste made the most of a part which did not particularly suit her; and the other principal characters were efficiently sustained by Misses Woolgar and Brooks, and Messrs. Howe, Worrell, and Wilkinson. The play has evidently been produced in a hurry; but it is well put upon the stage, and some of the scenes very good. A burlesque on *Telemaachus* was brought out on Tuesday, and was tolerably successful; but it lacks fun, and is much too long. Wright, Paul Bedford, and Miss Woolgar, sustained the characters of *Calypso*, *Mentor*, and *Telemaachus*; and did all they could to carry the piece through; but it went heavily, and will not keep possession of the stage for any length of time.

* In the lobby a printed prospectus was handed about relating to a Metropolitan Association for improving the Dwellings of the Poor; as it seems, of a joint-stock company with a royal charter of incorporation. We have no data to judge of the plan; but with regard to it and all others for bettering the condition of "the masses" in food, in raiment, in domestic comfort, in cleanliness, in recreation, and in education, we would strenuously inculcate the one broad and indefeasible principle, that the people should be induced to co-operate with their friends, and preserve a degree of freedom, and independency, as far as possible removed from gratuitous help and eleemosynary charity.—Ed. L. G.

Mr. Macready.—The *Albion*, of New York (Saturday, 21st Sept.), contains an account of Macready's farewell engagement during the week, in which he played *Hamlet*, *Macbeth*, *Werner*, and *Richelieu*, to crowded and enthusiastic audiences. Mr. M. sailed on the 16th inst. from Boston on his return home. The *Albion* a week later (since received) mentions the last performance of our accomplished tragedian, in the character of Shakspeare's *Lear*, undefiled by Tate. It states what we hope is true, that Mr. M. has realised about 60,000 dollars; which he has deservedly earned, by confirming a taste for true histrionic excellence in the country, and thus materially advancing the interests of the legitimate drama. Mr. Macready's concluding address was received with unanimous cheers from a house "crowded from the pit to the dome." Mr. Maywood had arrived from London, and was to appear at the Park theatre in several new pieces, written for his *Scotch* talent, which, in our opinion, has never met its fair meed in our great metropolis. Mr. Henry Phillips had also arrived from England, and had given "An Hour with Dibdin," &c., with *éclat* at the Apollo Rooms.

VARIETIES.

The Rev. Dr. Wolff.—If the following dates be correct, the gloomy apprehensions for Dr. Wolff's safety raised by the earlier will be removed by the later accounts. The date of the appeal to the monarchs, however, is puzzling.

The Rev. Doctor, in his letter of June 27, says: "I have now been already two months in this place, and though five or six times the king has promised to send me instantly to England with one of his ambassadors, I am in the greatest danger. I cannot stir out of the house without a guard of three men. Dil Hassa Khan, the fellow sent with me by the Assoff Addoola, has shamefully robbed, deceived, and outraged me. The Persian ambassador, Abbas Kooli Khan, is kind to me; but I think he will not have it in his power to rescue me. Nayeab Abdoel Samet Khan has extorted from me a writing to pay him 5000 tomans to effect my liberation. I suspect him that he was the cause of Stoddart's and Conolly's death, in spite of his continual protestation of friendship." "The Ameer is now at Samarcand, and I am here awaiting the most fatal orders from the king daily to reach me. It is true that poor Stoddart professed openly Christianity after he had made a forced profession of Mahomedanism. Do for me what you can, as far as the honour of England is not compromised. All the inhabitants wish that either Russia or England should take the country. Do not believe any former reports of my speedy departure—for I am in great danger."

"JOSEPH WOLFF."

"Bokhara, Aug. 1, 1844."

"To all the Monarchs of Europe."

"Sires,—I set out for Bokhara to ransom the lives of two officers, Stoddart and Conolly; but both of them were murdered many months previous to my departure, and I do not know whether or not this blood of mine shall be spilt. I do not supplicate for my own safety; but, monarchs, 200,000 Persian slaves, many of them people of high talent, sigh in the kingdom of Bokhara. Endeavour to effect their liberation, and I shall rejoice in the grave, that my blood has been the cause of the ransom of so many human beings. I am too much agitated, and watched besides, to be able to write more."

"JOSEPH WOLFF."

Dr. Wolff writes from Bokhara, dated the 25th of July: "The Ameer has returned from Ko-

ghan, and presented me with a dress of honour, a horse, and 100 tomans, and I hope to set out in a few days for Persia."—*Globe*.

The last accounts from Teheran (Constantinople, Sept. 25) also state, that on his return from Samarcand the Ameer of Bokhara sent for the Dr., received him well, and presented him with a hundred gold pieces, a horse, and a kaftan of honour, permitting him at the same time to return to his country. But at Teheran some uneasiness is still felt about the doctor's safety, it being apprehended that the Ameer may have him surprised and murdered on the road. No news of his departure has yet been received. It is said that he awaits the Persian embassy which is now at Bokhara. If he succeed in travelling with that embassy, he may be considered as saved.—*Augsburg Gazette*.

The French Benevolent Society sent a deputation to wait upon the king, who were graciously received, and assured by his Majesty of the deep interest he felt for the prosperity of the charity. Like the French Protestant Church in London, it well deserves the liberal support of all the good and humane.

Growth of Wheat.—A Liverpool paper states a fact, which, if true, bids fair to induce a belief in the rapid growth of Jack's beanstalk, viz. that a grain of wheat pickled in sulphuric acid sprang half an inch in the first two days, and has been growing in the same proportion ever since!

Great Iron Bridge.—The Emperor of Russia has directed an iron bridge to be thrown across the Neva at St. Petersburg, where till now there has only been an inconvenient and uncertain bridge of boats. It is to be of 7 arches, and above 1070 feet in span.

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TO CORRESPONDENTS.

Erratum.—P. 637, col. 3, line 52, for ditzipa read ditrupa.

ADVERTISEMENTS.

MISCELLANEOUS.

STAMMERING.—MR. HUNT, of 224 REGENT STREET, and late of Trinity College, Cambridge, intends remaining in Town until the end of November; and resuming his usual Town-residence for the Season in February next.

CLERICAL ELOCUTION.—MR. RICHARD JONES has returned for the Season to his house, 14 CHAPEL STREET, GROSVENOR PLACE, BELGRAVE SQUARE.

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